STATE OF CALIFORNIA

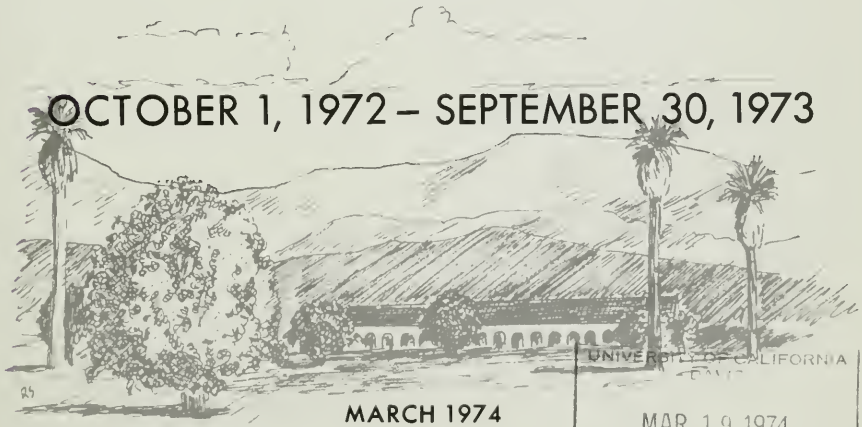
The Resources Agency

Department of Water Resources

BULLETIN No. 181-73

WATERMASTER SERVICE IN THE UPPER LOS ANGELES RIVER AREA LOS ANGELES COUNTY

OCTOBER 1, 1972 – SEPTEMBER 30, 1973



MARCH 1974

NORMAN B. LIVERMORE, JR.
Secretary for Resources
The Resources Agency

RONALD REAGAN
Governor
State of California

JOHN R. TEERINK
Director
Department of Water Resources

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ABSTRACT

The 1972-73 water year was an above average rainfall year. Rainfall in the valley fill area was 12.55 inches greater than the prior year and about 4.20 inches above the LACFCD 90-year mean precipitation. As a result, spreading operations by LACFCD was increased by 426 percent above that of the prior year. Ground water extractions were 3 percent below the Restricted Pumping limitations and imports decreased 0.72 percent.

Nine parties overextracted a totel of 2,307.48 acre-feet in the 1972-73 water year. Four of the nine parties are in violation of the Judgment as a result of heving a zero water right.

During 1972-73, the Watermaster processed nine water right sale and assignment agreements. Several parties were warned about violations of the Judgment.

Item	Water Year 1971-72	1972-73
Parties	28	28
Active pumpers	23	23
Active nonparties (within valley fill)	3	3
Restricted Pumping, in acre-feet	104,040	104,040
Watermaster expenses (fiscal year)	$ 18,188.14	$ 20,587.80
Watermaster expenses per acre-foot pumped	0.17	0.20
Valley rainfall, in inches	8.10	20.65
Spreading Operations, in acre-feet		
LACFCD	3,210	16,886
Los Angeles, City of	7,389	7,456
Extractions, in acre-feet	104,181	100,907
Imports, in acre-feet		
Colorado River water	27,138	5,533
Owens River water	459,084	453,916
Northern California water	6,758	29,982
Delivered to hill and mountain areas, in acre-feet	45,394	50,375
Exports, in acre-feet		
Owens River water	228,903	238,762
Sewage	108,807	109,867

State of California
The Resources Agency
DEPARTMENT OF WATER RESOURCES

Ronald Reagan, Governor
Norman B. Livermore, Jr., Secretary for Resources
John R. Teerink, Director, Department of Water Resources
Robert G. Eiland, Deputy Director

SOUTHERN DISTRICT

Jack J. Coe . . . . . District Engineer & Watermaster
Paul E. Hood. . . . . Assistant to the District Engineer
Mitchell L. Gould . . . . . Chief, Operations Branch and Deputy Watermaster

Watermaster service in this area was conducted
and report prepared under the direction

of

Clyde B. Arnold . . . . . Chief, Contracts Administration Section

by

Carlos Madrid . . . . . Deputy Watermaster

assisted by

Gabriel V. Valenzuela . . . . . Water Resources Engineering Associate
Cesar M. Garma . . . . . Assistant Civil Engineer
Raymond D. Woo, William H. McCann . . . . . Water Resources Technician II
Paul DeKonty, John Stanley, Tom Smith . . . . . Water Resources Technician I
Pete Fielding . . . . . Engineering Aid II
Lillian Rabin . . . . . Clerk-Typist II Range B
Donna Infrance, William Morvay . . . . . Clerk-Typist II
Dean H. Wilson . . . . . Delineator

FOREWORD

The Department of Water Resources, as Watermaster for the Upper Los Angeles River Area (ULARA), submits this annual report as a comprehensive review of water supply conditions in ULARA during the 1972-73 water year. The report was prepared for the Superior Court in the County of Los Angeles, and for the parties to the Upper Los Angeles River Area Judgment, whose provisions authorize its publication.

The Upper Los Angeles River Area is administered by the Department as a watermaster service area in accordance with Part 4, Division 2, of the California Water Code. ULARA has been operated for several years under a well-defined management plan that limits and monitors ground water extractions.

This report contains information on ground water extractions, use of imported water, recharge operations, a financial report on watermaster service during the 1972-73 fiscal year, and the tentative budget of the Watermaster for the 1974-75 fiscal year.

Jack J. Coe
District Engineer
Southern District
and Watermaster
Reg. C. E. No. 8075

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I. INTRODUCTION

he Upper Los Angeles River Area ULARA) encompasses all of the water- hed of the Los Angeles River and its ributaries above a point in said river esignated as Los Angeles County Flood ontrol District Gaging Station F-57C, orthwesterly of the junction of the urface channels of the Los Angeles iver and the Arroyo Seco as shown on late 1.

he entire area consists of approxi- ately 329,000 acres, comprising 23,000 acres of valley fill area, eferred to as the ground water basins, nd 206,000 acres of hill and mountain reas. ULARA is bounded on the north y the Santa Susana Mountains and on he west by the Simi Hills. To the outh, the Santa Monica Mountains sepa- ate it from the Los Angeles Basin and o the east the San Rafael Hills eparate it from the San Gabriel Basin.

LARA, as defined in the Judgment, has our distinct hydrologic ground water asins. The water supplies of these asins are separate and independent nd are replenished by deep percola- ion from rainfall and from a portion f the water that is delivered for use ithin these basins and which returns o the ground water body. The four round water basins in ULARA are the an Fernando Basin, the Sylmar Basin, he Verdugo Basin, and the Eagle Rock asin. See Plate 1.

he San Fernando Basin is the largest f the four basins in ULARA. It con- ists of approximately 112,047 acres nd comprises 90.8 percent of the otal valley fill. It is bounded on he east and northeast by the San afael Hills and Verdugo Mountains; on he northwest and west by the Santa usana Mountains and Simi Hills; and n the south by the Santa Monica ountains.

The Sylmar Basin is located in the northerly part of ULARA. It consists of approximately 5,565 acres and comprises 4.5 percent of the total valley fill. It is bounded on the north and east by the San Gabriel Mountains; the topographic divide in the valley fill, lying between the Mission Hills and San Gabriel Mountains, divide it on the west; and to the south it is divided by the eroded limb of the Little Tujunga syncline.

The Verdugo Basin is located to the north and east of the Verdugo Mountains in ULARA. It consists of approximately 4,400 acres and comprises 3.8 percent of the total valley fill. It is bounded on the north by the San Gabriel Mountains; on the south and southwest by Verdugo Mountains; on the southeast by the San Rafael Mountains; and on the east by the ground water divide between the Monk Hill Subarea of the Raymond Basin and the Verdugo Basin.

The Eagle Rock Basin is the smallest of the four basins and is located in the extreme southeast corner of ULARA. It comprises approximately 807 acres and consists of 0.6 percent of the total valley fill.

History of Adjudication

ULARA was established by the JUDGMENT AFTER TRIAL BY COURT in Superior Court Case No. 650,079, entitled "The City of Los Angeles, A Municipal Corporation, Plaintiff, vs. City of San Fernando, et al., Defendants" signed March 14, 1968 by the Honorable Edmund M. Moor, Judge of the Superior Court. Prior to the Judgment, numerous pretrials were held, subsequent to the filing of the action by the City of Los Angeles in 1955 and before the trial commenced on March 1, 1966.

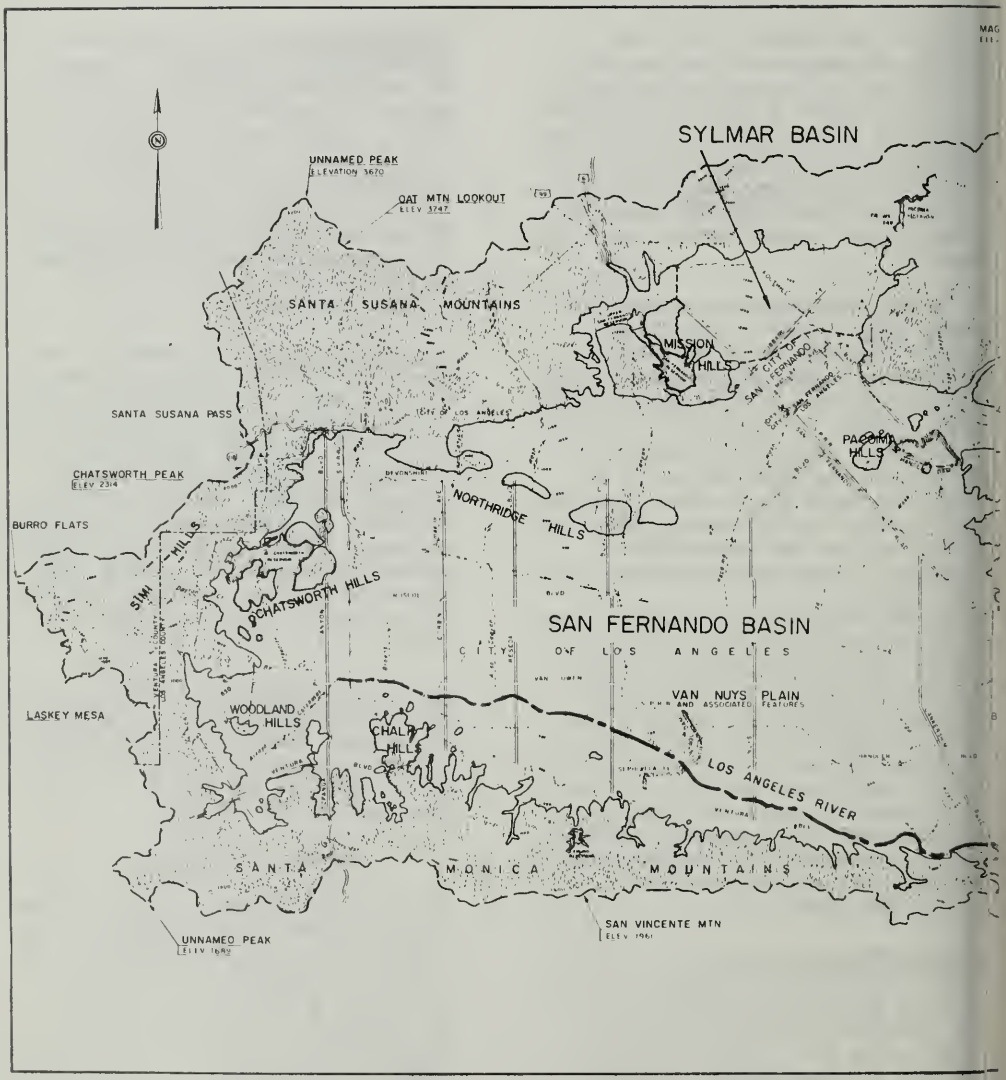
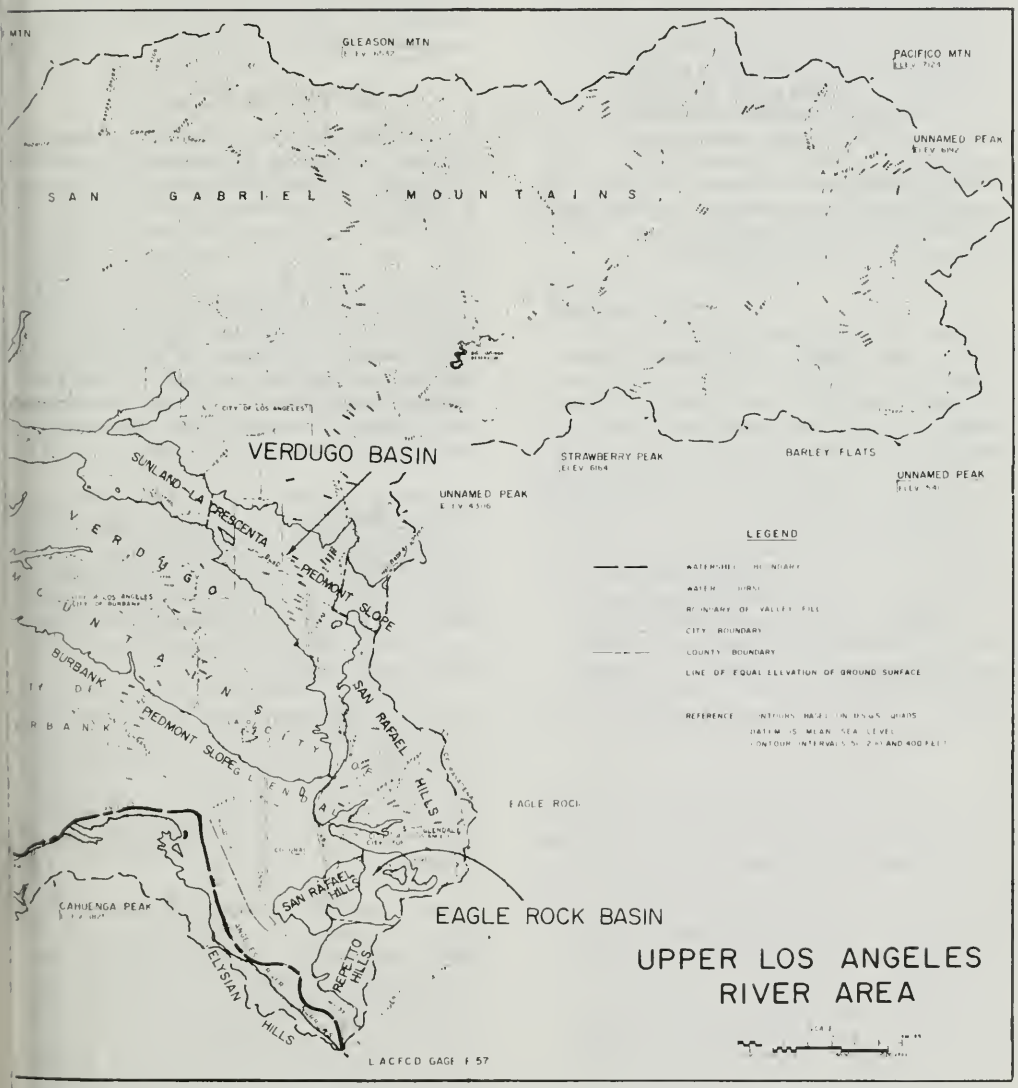

SYLMAR BASIN
UNNAMED PEAK
ELEVATION 3670
OAT MTN LOOKOUT
ELEV 3747
SANTA SUSANA MOUNTAINS
MISSION HILLS
CITY OF SAN FERNANDO
SAN FERNANDO
SANTA SUSANA PASS
CITY OF LOS ANGELES
PACOIMA HILLS
CHATSWORTH PEAK
ELEV 2314
NORTHRIDGE HILLS
BURRO FLATS
SIMI HILLS
CHATSWORTH HILLS
SAN FERNANDO BASIN
CITY OF LOS ANGELES
VAN NUYS PLAIN
P.H.R. AND ASSOCIATED FEATURES
LASKEY MESA
WOODLAND HILLS
CHALK HILLS
LOS ANGELES RIVER
SANTA MONICA MOUNTAINS
SAN VINCENTE MTN
ELEV 1961
UNNAMED PEAK
ELEV 1680

PLATE 1


GLEASON MTN
PACIFICO MTN
UNNAMED PEAK
SAN GABRIEL MOUNTAINS
VERDUGO BASIN
STRAWBERRY PEAK
BARLEY FLATS
UNNAMED PEAK
UNNAMED PEAK
SUNLAND-LA CRESCENTA
PIEDMONT SLOPE
VERDUGO MOUNTAINS
BURBANK HILLS
PIEDMONT SLOPE
SAN RAFAEL HILLS
EAGLE ROCK
SAN RAFAEL HILLS
EAGLE ROCK BASIN
CAHUENGA PEAK
REPETTO HILLS
ELYSIAN HILLS
LACFCD GAGE F 57
LEGEND
WATERSHED BOUNDARY
BASIN BOUNDARY
BOUNDARY OF VALLEY FILL
CITY BOUNDARY
COUNTY BOUNDARY
LINE OF EQUAL ELEVATION OF GROUND SURFACE
UPPER LOS ANGELES RIVER AREA

On March 19, 1958, an Interim Order of Reference was entered by the Court directing the State Water Rights Board (now known as the Water Resources Control Board) to study the availability of all public and private records, documents, reports, and data relating to a proposed order of reference in the case. The Court subsequently entered an order on June 11, 1958, entitled "Order of Reference to State Water Rights Board to Investigate and Report Upon the Physical Facts (Section 2001, Water Code)".

A final Report of Referee was approved on July 27, 1962, and filed with the Court. The Report of Reference made a complete study of the geology, insofar as it affects the occurrence and movement of ground water, and the surface and ground water hydrology of the area. In addition, investigations were made of: the history of the horizontal and vertical location of the beds, banks and channels of the Los Angeles River and its tributaries; the areas, limits, and directions of flow of all ground water within the area; the quality of the ground water in the basins; all sources of water, whether it be diverted, extracted, or imported, etc. This was the basis for the Judgment.

The City of Los Angeles filed an appeal with the Court of Appeals which held a hearing on November 9, 1972, and issued its opinion on November 22, 1972. The opinion, prepared by Judge Compton and concurred by Judges Roth and Fleming, reversed, with direction, the original Judgment handed down by Judge Moor. In essence, the City of Los Angeles was given rights to all waters within ULARA including the use of the underground basins. The defendants, however, were given the right to capture "return water" which is purchased MWD water which percolates into the basin. A petition for re-hearing was filed on December 7, 1972, but denied by the Court of Appeals. On January 2, 1973, the defendants appealed to the Supreme Court. On March 2, 1973, the Court advised the parties to the suit that it would hear the case, but, as of January 30, 1974, no further action has been reported.

Watermaster Service

Watermaster Service is administered by the California Department of Water Resources in accordance with Division 2, Part 4, of the California Water Code. Under Section 4025 of the Water Code, the Department is authorized to divide the State into watermaster service areas. Pursuant to Section 4026, such service areas are created from time to time as rights to water are ascertained and determined. Particularly where ground water is concerned, such rights are usually ascertained or determined by court decree.

The first watermaster service area was formed in September 1929 and the latest (ULARA) was formed on April 19, 1968. Currently there are 19 such areas controlling surface water diversions in Northern California and four in Southern California controlling ground water use.

Under the Judgment, the Court appointed the Department of Water Resources as Watermaster to keep the Court fully advised in the premises, and to assist the Court in the administration and enforcement of the provisions of the Judgment.

A major task of the Watermaster in ULARA is that of monitoring ground water extractions. In accordance with the "General Information Policies and Procedures" dated January 4, 1971, and adopted by the Advisory Board, every ground water pumper reports its ground water extractions on a monthly basis on preprinted forms prepared and supplied by the Watermaster. This makes possible the updating of the water rights accounts (Watermaster Water Production Summary) by computing the amount pumped during the previous

month, the total amount pumped to date, and the amount that can be legally pumped during the remainder of the water year. A copy of the updated account is then mailed to the pumper each month.

The watermaster field staff performs water meter tests to verify ground water production reported by the parties, when requested by any party to the Judgment or at the discretion of the Watermaster.

Defective or inaccurate water measureing devices must be repaired within 30 days after receiving written notice of the results of the test from the Watermaster. A number of well site investigations were made during 1972-73; no meter tests were performed.

The Watermaster keeps the Court apprised of hydrologic conditions within ULARA by means of this annual report and on special occasions by correspondence directed to the Court, both of which are reviewed by an advisory board before submittal. In preparing the annual report, the Watermaster collects and reports all information affecting and relating to the water supply and disposal within ULARA. Such information includes the following items:

1. Water Supply
   a. Precipitation
   b. Imported water

2. Water Use and Disposal
   a. Extractions
      (1) Used in valley fill area
      (2) Exported from each basin
   b. Water Outflow
      (1) Surface
      (2) Subsurface
      (3) Sewers

3. Water Levels

4. Transfers of Water Rights

5. Watermaster Administrative Budgets and Costs

6. Compliance and Violation by any Party in Terms of the Judgment.

7. Ownership and Locations of New Wells.

In addition to the above duties, the Watermaster also makes recommendations as it deems appropriate in connection with the proper utilization of the water supply in the underground storage capacities of ULARA.

Advisory Board

Section X, Paragraph 5 of the ULARA Judgment established an Advisory Board for the purpose of advising the Watermaster in the administration of its duties. The duly appointed members of the Board, as of September 30, 1973 are:

City of Los Angeles
Duane L. Georgeson
Wells O. Abbott, Jr. (Alternate)
Bruce W. Kuebler
Melvin L. Blevins (Secretary)(Altern.)

City of Glendale
William H. Fell
Arnold W. Jagow (Alternate)

City of Burbank
Alan A. Capon
Martindale Kile, Jr. (Alternate)

City of San Fernando
Robert James (Chairman)
Stuart E. Bergman (Alternate)

Crescenta Valley County Water District
Robert E. Blomquist
Robert Argenio (Alternate)

The Advisory Board may be convened by the Watermaster at any time in order to seek its advice. In addition, the Advisory Board is also responsible for

reviewing with the Watermaster the proposed annual budget and annual report.

During the 1972-73 water year, the Advisory Board was convened on February 5, 1973. The meeting was called for the purpose of discussing the following items:

1. Annual Report for 1971-72

2. Budget for 1973-74

The Advisory Board was also convened on August 15, 1973, for the purpose of discussing the possibility of using the ULARA Ground Water Basin for the storing of surplus Northern California water delivered by the State Water Project.

II. WATER SUPPLY CONDITIONS

The Upper Los Angeles River Area depends upon many sources of water to meet demands brought on by a fast growth in industry and a continuing population increase. At present, the water supply to ULARA consists of: precipitation on the watershed which includes portions of the San Gabriel, Santa Monica, Verdugo, and Santa Susana Mountains; ground water that is in storage within the four basins; imports from the Mono Basin-Owens River system; imports from the Colorado River; and water from Northern California made available through the facilities of the State Water Project.

Precipitation

The Upper Los Angeles River Area has the climate of an interior coastal valley and is hotter in the summer and wetter in the winter than the coastal areas which have a Mediterranean type climate.

Precipitation varies considerably throughout ULARA, depending on the topography and the elevation. Mean seasonal precipitation varies from about 14 inches at the western end of the San Fernando Valley to 35 inches in the San Gabriel Mountains. On the average, approximately 80 percent of the annual rainfall occurs in the four winter months of December through March.

Quantities of precipitation on the valley floor and on the hill and mountain areas are evaluated separately. The valley floor is made up of the four ground water basins, whereas the hill and mountain areas comprise the remaining areas in ULARA. Precipitation on the hill and mountain areas is evaluated to relate the runoff from the watersheds of Big Tujunga, Pacoima Creek, and Sycamore Canyon, with the runoff records which are included in this report and also to evaluate the ground water recharge. See Plate 2 for location of precipitation stations.

The 1972-73 water year experienced above average rainfall. In the hill and mountain areas, some stations received as much as 144 percent of normal. On the average, about 20.65 inches of rain fell on the valley floor, whereas the mountain areas received approximately 25.93 inches of rainfall. The 90-year (1881-1971) average precipitation for the valley floor and mountain areas are 16.45 and 21.35 inches, respectively.

Table 1 presents a record of rainfall at 22 key precipitation stations which were used to develop the 90-year average rainfall and are described in the Report of Referee.

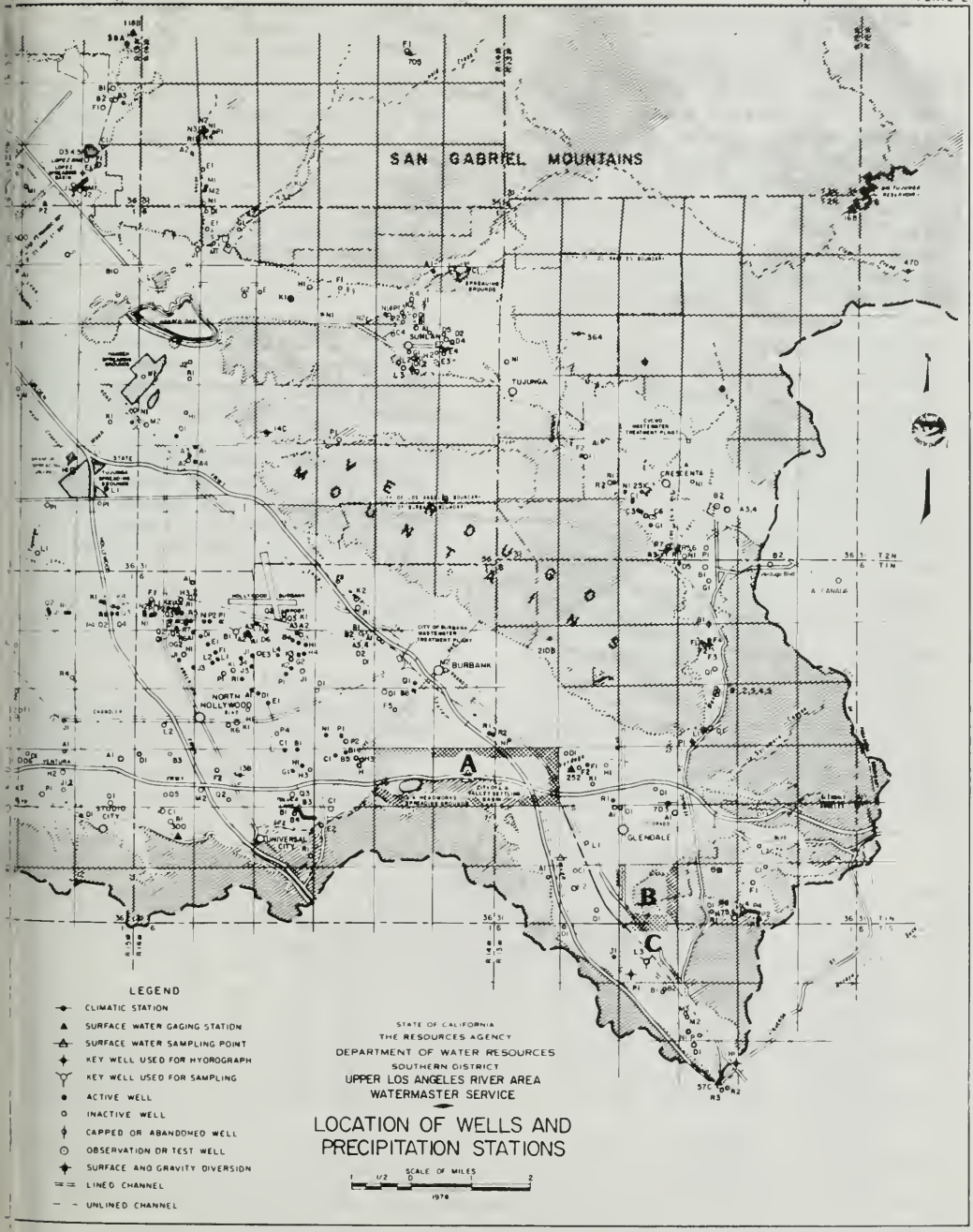
TABLE 1. PRECIPITATION [a]
In inches

LACFCD District Number	Station Name	90-year mean	1971-72 Precipitation	1972-73 Precipitation	Percent of 90-year mean
11C	Upper Franklin Canyon Reservoir [b]	18.31	10.6[illegible]	24.44	133
13B	North Hollywood [c]	16.69	8.27	21.78	130
14C	Roscoe-Mcgrill [c]	15.02	7.8[illegible]	21.23	141
15A	Van Nuys [c]	15.07	7.15	19.35	128
17	Sepulveda Canyon	19.07	12.37	27.53	144
23B-F	Chatsworth Reservoir [c]	14.57	8.35	18.55	127
25C	Northridge-Andrew [c]	14.56	7.40	17.98	124
29D	Granada Pump Plant	17.33	9.0[illegible]	2[illegible].55	124
30B	Sylmar [c]	16.44	9.[illegible]	[illegible].26	134
33A-E	Pacoima Dam	18.[illegible]	10.09	27.04	144
47D	Clear Creek City School	30.59	13.5[illegible]	38.68	126
53D	Colby's Ranch	29.[illegible]5	13.8[illegible]	32.74	110
54C	Loomis Ranch-Alder Creek	20.47	9.8[illegible]	17.6[illegible]	8[illegible]
210B	Brand Park [c]	18.71	10.11	23.51	126
251C	La Crescenta [c]	23.50	11.[illegible]	29.21	124
259D	Chatsworth Patrol	17.88	8.59	20.58	115
364	Haines Canyon-Lower	24.[illegible]0	12.1[illegible]	27.63	115
470	Tujunga-Mill Creek	16.94	7.87	17.59	104
703	Glendale-McIntyre [c,d]	17.65	8.[illegible]	22.61	128
705	Paradise Ranch-Alder Creek	18.93	9.53	26.00 [e]	137
1051B	Canoga Park [f]	14.39	8.68	20.86 [f]	145
1074	Little Gleason [g]	34.[illegible]0	11.59	3[illegible].[illegible]0	1[illegible]

a/ Data furnished by Los Angeles County Flood Control District.
b/ Substituted for Franklin Canyon Station No. 12.
c/ Valley Station.
d/ Substituted for Glendale Station 294G.
e/ Substituted by Pacoima Canyon-Dutch Louie Canyon Station 460B
f/ Substituted by Woodland Hills Station 21B.
g/ Substituted for Santa Clara Ridge Station No. 419.


SANTA SUSANA MOUNTAINS
ROCKETDYNE SANTA SUSANA FIELD LABORATORY WASTEWATER TREATMENT PLANTS
SIMI HILLS
T3N
T2N
T1N
T1S
GRANADA HILLS
CHATSWORTH
CHATSWORTH RESERVOIR
CANOGA PARK
RESEDA
WOODLAND HILLS
TARZANA
ENCINO
ENCINO RESERVOIR
VENTURA
SANTA MONICA MOUNTAI
PROPOSED L.A. GLENDALE WASTE WATER RECLAMATION PLANT
CITY OF L.A. VALLEY SETTLING BASIN
23 WELLS
L.A. HEADWORKS SPREADING GROUNDS
A
B
C

PLATE 2


SAN GABRIEL MOUNTAINS
HOLLYWOOD HILLS
TUJUNGA
CRESCENTA
BURBANK
NORTH HOLLYWOOD
STUDIO CITY
UNIVERSAL CITY
GLENDALE
A
B
C
T2N
T1N
LEGEND
CLIMATIC STATION
SURFACE WATER GAGING STATION
SURFACE WATER SAMPLING POINT
KEY WELL USED FOR HYDROGRAPH
KEY WELL USED FOR SAMPLING
ACTIVE WELL
INACTIVE WELL
CAPPED OR ABANDONED WELL
OBSERVATION OR TEST WELL
SURFACE AND GRAVITY DIVERSION
LINED CHANNEL
UNLINED CHANNEL
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
LOCATION OF WELLS AND PRECIPITATION STATIONS
SCALE OF MILES
1978

Runoff and Outflow from ULARA

The drainage area of ULARA contains 329,137 acres of which 205,709 acres are hill and mountain areas. The drainage system in turn is made up of the Los Angeles River and its tributaries. The surface flow in the spring originates as : Storm runoff from the hill and mountain areas; storm runoff from the impervious areas of the valley floor; operational spills of imported water; industrial and sanitary waste discharge; and rising water.

Urbanization of the area has rapidly increased the flow discharge rates in much of ULARA and as such it is important to keep abreast of these changes to nature and its effect on the ground water basins.

A number of stream gaging stations are maintained throughout ULARA either by the LACFCD or the USGS. The Watermaster has selected six key gaging stations which in effect record major runoff from the hydrologic areas within ULARA.

Table 2 summarizes the monthly flows for each of the gaging stations and compares the 1972-73 water year with the 1971-72 water year. One was a very dry year and one very wet as evidenced by the runoff quantities.

The records presented herein will keep the parties informed as to the magnitude of runoff from these various areas. The stations selected for this purpose are:

Station 57C; registers all surface outflow from ULARA.

Station 118B; registers all releases from Pacoima Dam which originate in Pacoima Canyon. Runoff below this point flows to the Lopez and Pacoima Spreading Grounds and on down to the Los Angeles River.

Station 168; registers all releases from Big Tujunga Dam which collects runoff from Tujunga Canyon northeasterly of the dam. Runoff below this point flows to Hansen Dam.

Station 252; registers flow from Verdugo Canyon plus flows from Dunsmore and Pickens Canyons.

Station E-285; registers flow from the westerly slopes of Verdugo Mountains and some flow east of Lankershim Boulevard. It also records any releases of reclaimed waste water discharged by the City of Burbank.

TABLE 2. MONTHLY RUNOFF AT SELECTED GAGING STATIONS [a/]
In acre-feet

Station	Water Year	Month												Total
		Oct.	Nov.	Dec.	Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sept.	
57C-R (Los Angeles River)	1971-72	3181	1414	30790	1414	1575	1139	1036	1009	1629	1412	1515	756	46870
	1972-73	1672	15936	5699	17855	50510	13964	1393	1688	1388	1782	1152	920	113959
252-R (Verdugo Channel)	1971-72	404	219	2320	263	206	164	172	236	145	133	185	121	4570
	1972-73	124	1120	644	1357	3850	1513	102	154	138	144	141	121	9400
E285-R (Burbank Storm Drain)	1971-72	735	613	1690	621	495	638	427	392	508	443	533	378	7470
	1972-73	541	1415	826	1485	3204	1248	493	332	522	471	493	638	11668
300-R (L. A. River at Tujunga Ave.)	1971-72	1560	1160	16440	1100	1190	1010	989	966	860	747	968	607	27600
	1972-73	1104	6325	3190	13027	36092	8354	972	853	847	755	689	895	73104
168-R (Big Tujunga Dam)	1971-72	307	121	170	1120	211	62	60	205	207	287	286	258	3294
	1972-73	265	221	14	13	4542	3280	1376	88	42	54	3661	1024	14580
118B-R (Pacoima Dam)	1971-72	61	5	b/	254	333	18	18	18	19	26	17	31	800
	1972-73	12	8	6	6	3069	2680	1326	763	6	6	6	6	7890

a/ Figures shown are rounded off; for details see Appendix C.
b/ Denotes insignificant flow.

Station 300; registers all flow west of Lankershim Boulevard plus outflow from Hansen Dam that is not spread. These records also include releases from Sepulveda Dam, which may include extractions from Reseda wells.

The location of these key gaging stations are shown on Plate 2. The mean daily discharge rates for these six gaging stations during 1972-73 is summarized in Appendix C.

At the request of the Advisory Board, the Watermaster has attempted to compute the surface flow of the Los Angeles River at gaging station F-57C as to the sources, i.e., storm runoff from precipitation, Owens River water, rising water, and industrial and reclaimed waste water discharges. The Watermaster utilized the procedures outlined in the Report of Referee for estimating the approximate flow rates and sources of water passing gaging station F-57C. A summary of the procedures used follows, and a tabulation of the computed flows is shown in Table 3.

The base low flows were separated from the surface runoff by the use of the hydrographs of Station F-57C. Base flows consist of rising water and industrial waste plus sewage. The separation of these two components is based on the following assumptions:

Rising water equals base low flow minus the sum of industrial waste and sewage.

Industrial wastes are estimated from City of Los Angeles waste permits, and the low flows in the Burbank-Western storm drain.

When the City of Los Angeles diverts water at the Headworks, all the rising water is diverted.

When there is no diversion at the Headworks, all the rising waters percolate upstream from Station F-57C.

The surface runoff obtained from the hydrographs of Station F-57C consists of net storm runoff and Owens River water. The separation of surface runoff into these two components is based on the following assumptions:

Net storm runoff equals surface runoff minus Owens River water.

If the Headworks is diverting, all releases of Owens River waters are diverted to the Headworks spreading grounds.

If the Headworks is not diverting, all releases of Owens River waters are considered to pass Station F-57C.

TABLE 3. SEPARATION OF SURFACE FLOW AT STATION F-57C

In acre-feet

Period	Base low flow		Surface runoff		Total measured outflow
	Rising water[a]	Waste discharge	Owens River	Net storm[a]	
1969-70	4,180	6,565	0	36,775	47,520
1970-71	2,556	8,856	12,978	68,920	93,310
1971-72	3,602	8,219	0	35,049	46,870
1972-73	4,596	8,776	0	100,587	113,959
29-year average 1929-57	6,810	770	1,580	30,790	39,940

[a] Rising water and storm runoff from Verdugo to San Fernando Basin amounted to 2,881 and 4,805 acre-feet in 1970-71; 2,050 and 2,513 acre-feet in 1971-72; and 1,706 and 7,702 acre-feet in 1972-73.

Ground Water Recharge

Local precipitation can have a marked influence on the ground water supply and water in storage. However, there is a wide variation in the annual amount of runoff as a result of changes in both precipitation and retentive characteristics of the watershed.

The accelerated urban development in ULARA has resulted in much of the rainfall being collected and routed into paved channels which discharge into the Los Angeles River and subsequently is carried out of the basin. Plate 2 depicts the lined channels within ULARA.

To somewhat overcome the rapid outflow due to urbanization, Pacoima Dam and Hansen Dam, originally built for flood protection, are currently being utilized to regulate storm flows for the purpose of recapturing the flow in spreading basins operated by the Los Angeles County Flood Control District (LACFCD) as well as the City of Los Angeles.

The LACFCD operates four spreading basins: Branford, Hansen, Lopez, and Pacoima Spreading Grounds. The City of Los Angeles, in turn, operates the Tujunga and Headworks Spreading Grounds. Plate 2 shows the location of these spreading basins. The spreading grounds operated by the LACFCD are utilized for spreading native water, whereas the spreading grounds operated by the City of Los Angeles are utilized to spread Owens River and native water, spillage from the Chatsworth Reservoir, ground water effluent, and the discharge from the Reseda wells. Table 4 summarizes the spreading operations for the 1972-73 water year.

TABLE 4. SPREADING OPERATIONS
In acre-feet

Month	Native water spread by Los Angeles County Flood Control District Spreading Basins				Water spread by City of Los Angeles				
					Tujunga Spreading Grounds	Headworks Spreading Grounds			
	Branford	Hansen	Lopez	Pacoima	Native water	Owens River water	Owens River releases	Reseda Wells	Ground water effluent in L. A. River[a]
Oct. 1972	33	0	0	0	0	0	0	48	524
Nov.	115	0	0	182	0	0	0	60	339
Dec.	73	0	0	156	0	0	0	130	362
Jan. 1973	446	0	0	222	0	0	0	46	323
Feb.	450	4196	0	1502	2274	0	0	0	239
Mar.	153	4113	0	2777	0	0	0	0	430
Apr.	1	963	0	968	0	0	0	0	589
May	+	0	0	536	0	0	0	0	689
June	+	0	0	0	0	0	0	0	524
July	+	0	0	0	0	0	0	0	0
Aug.	+	0	0	0	0	0	0	33	281
Sept.	+	0	0	0	0	0	0	184	381
Totals	1271	9272	0	6343	2274	0	0	501	4681

a/ Includes industrial discharge, ground water effluent, and surface runoff diverted from Los Angeles River to Headworks Spreading Grounds.

\+ Denotes insignificant amount.

Ground Water Table Elevations

During the 1972-73 water year, the Watermaster collected and processed data to determine prevailing ground water conditions in ULARA.

Ground water conditions during the spring and fall of 1973 are depicted by Plates 3 and 4, respectively. Data for lines of equal ground water elevation for Sylmar, Chatsworth, and Santa Monica Foothills were obtained from the City of Los Angeles, and data for the remaining area from the LACFCD.

Change in ground water surface elevation from fall of 1972 to fall of 1973 as presented in Plate 5 reflects the effects of variations in spreading, ground water extractions, and rainfall. The areas around Hansen, Pacoima, and Tujunga spreading basins show a rise in ground water elevation because of the increase in the amount of water spread in 1972-73. On the other hand, the drop in water levels in the vicinity of North Hollywood is attributed to the increase in ground water extractions. An increase in extractions by the City of Los Angeles at its Pollock Field, located halfway between Glendale and Station F-57C, has also resulted in a drop in water levels in that area. Curtailment in ground water extractions has resulted in a rise in water levels in the vicinity of Reseda and the City of Burbank.

Figures 1 and 2 depict the water levels at key wells and Plate 2 shows the location of the key wells.

Waste Water Reclamation

The reclamation of waste water can provide a relatively economical source of water for irrigation, industrial, recreational, and possibly, domestic use. Seven waste water treatment plants are in operation in ULARA, one is under construction and another is being considered. See Plate 2 for locations. A tabulation of the operating waste water reclamation plants is shown in Table 5.

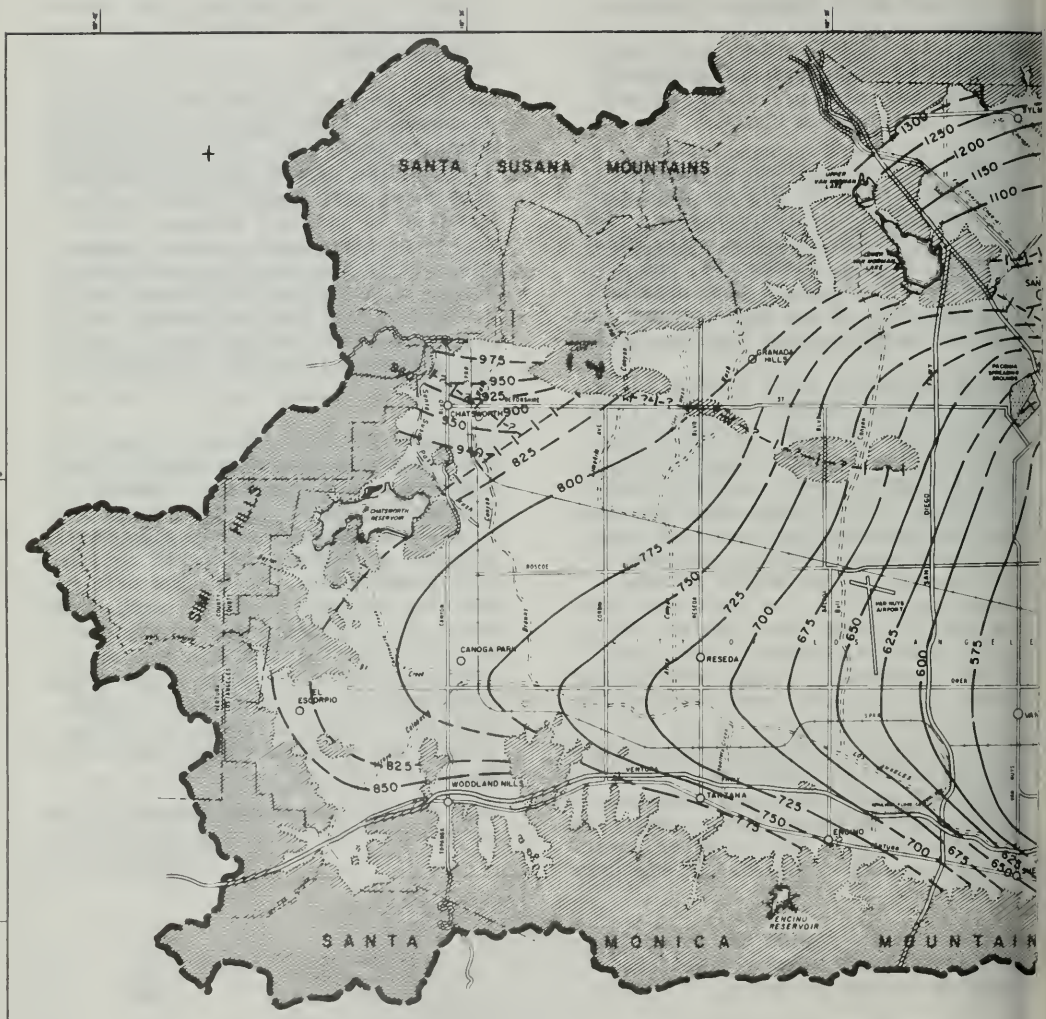
The Los Angeles-Glendale Waste Water Reclamation Plant project is currently under construction. As of December 31, 1973, it was approximately 40 percent completed, with completion expected sometime in the late spring of 1975, and an on-line target date of summer 1975. Treatment capacity will be 20 mgd with 7.5 mgd for irrigation, 2.5 mgd to the City of Glendale for its steam plant cooling water, and 10 mgd discharged into the Los Angeles River.

The Sepulveda Basin Water Reclamation Plant's design has been completed and a public hearing held on or about January 30, 1973. The project is now being held in abeyance awaiting the approval of State and Federal construction grant funds. As of this writing, the City Engineer's office reports that there is no schedule for construction as it is doubtful that the necessary funds will be forthcoming. This plant would provide five modules of 40 mgd each and treated effluent for irrigation to the Sepulveda Basin Recreation area.

TABLE 5 WASTE WATER RECLAMATION PLANTS

Plant	Quantity treated, in acre-feet
San Fernando Basin	
City of Burbank	5,417[a]
City of Los Angeles Valley Settling Basins	428[b]
Indian Hills Mobile Homes	20[c]
Rocketdyne (Santa Susana Field Laboratory)	26[d]
Verdugo Basin	
Crescenta Valley County Water District	102[c]

a/ Cooling towers used 2,623 acre-feet, balance to Los Angeles River.
b/ Applied 4.25 acre-feet to irrigation, balance to city sewer.
c/ Used for land irrigation.
d/ Three plants: Area I = 7 acre-feet, Area II = 6 acre-feet, Area III = 13 acre-feet.



LEGEND

- AREA AND DRAINAGE DIVIDE
- IMPEDIMENT TO GROUND WATER FLOW
- EDGE OF ALLUVIUM
- CITY BOUNDARY
- 700 LINES OF EQUAL ELEVATION OF GROUND WATER


SAN GABRIEL MOUNTAINS
VERDUGO MOUNTAINS
SUNLAND
TUJUNGA
LA CRESCENTA
LA CANADA
Verdugo Blvd
BURBANK
NORTH HOLLYWOOD
UNIVERSAL CITY
STUDIO CITY
GLENDALE
BRANFORD SPREADING GROUNDS
TUJUNGA SPREADING GROUNDS
HOLLYWOOD BURBANK AIRPORT
L.A. HEADWORKS SPREADING GROUNDS
TOLUCA LAKE
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
LINES OF EQUAL ELEVATION
OF GROUND WATER
SPRING 1973
SCALE OF MILES
1974

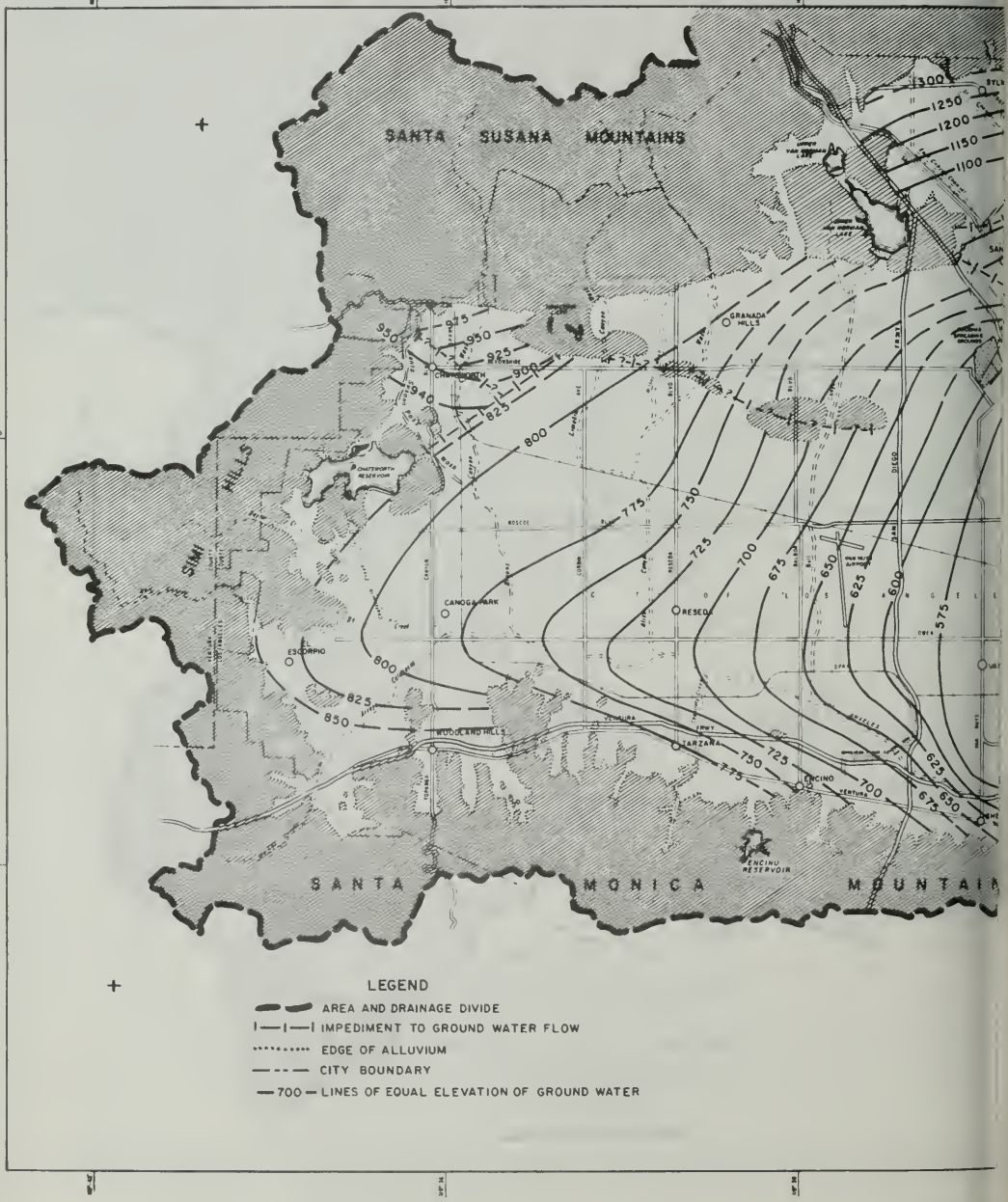
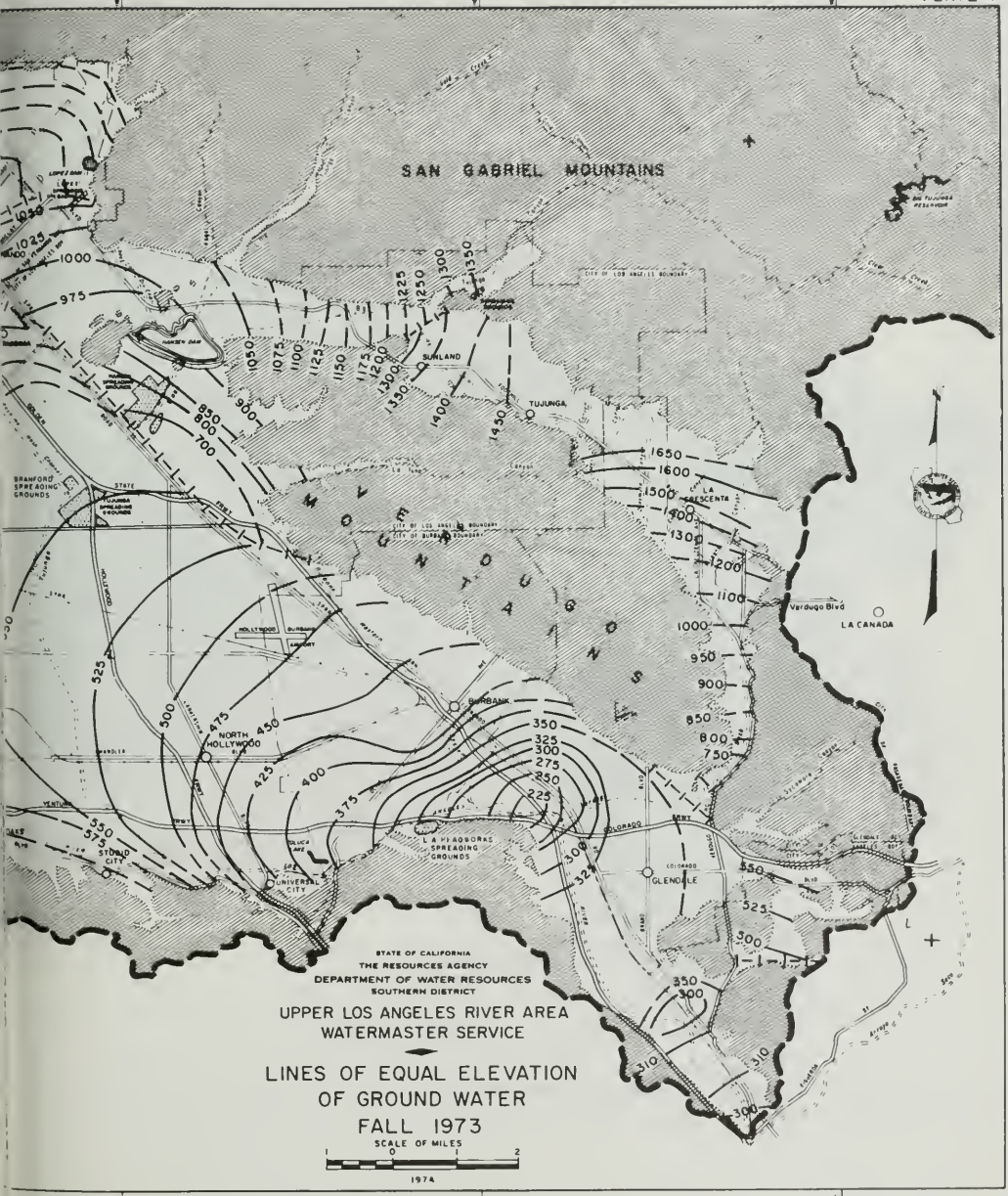

SANTA SUSANA MOUNTAINS
SIMI HILLS
SANTA MONICA MOUNTAINS
GRANADA HILLS
CHATSWORTH RESERVOIR
CANOGA PARK
RESEDA
ESCORPIO
WOODLAND HILLS
TARZANA
ENCINO
ENCINO RESERVOIR
ROSCOE
VENTURA
1300
1250
1200
1150
1100
975
950
925
900
875
850
825
800
775
750
725
700
675
650
625
600
575
LEGEND
AREA AND DRAINAGE DIVIDE
IMPEDIMENT TO GROUND WATER FLOW
EDGE OF ALLUVIUM
CITY BOUNDARY
700 LINES OF EQUAL ELEVATION OF GROUND WATER

PLATE 4



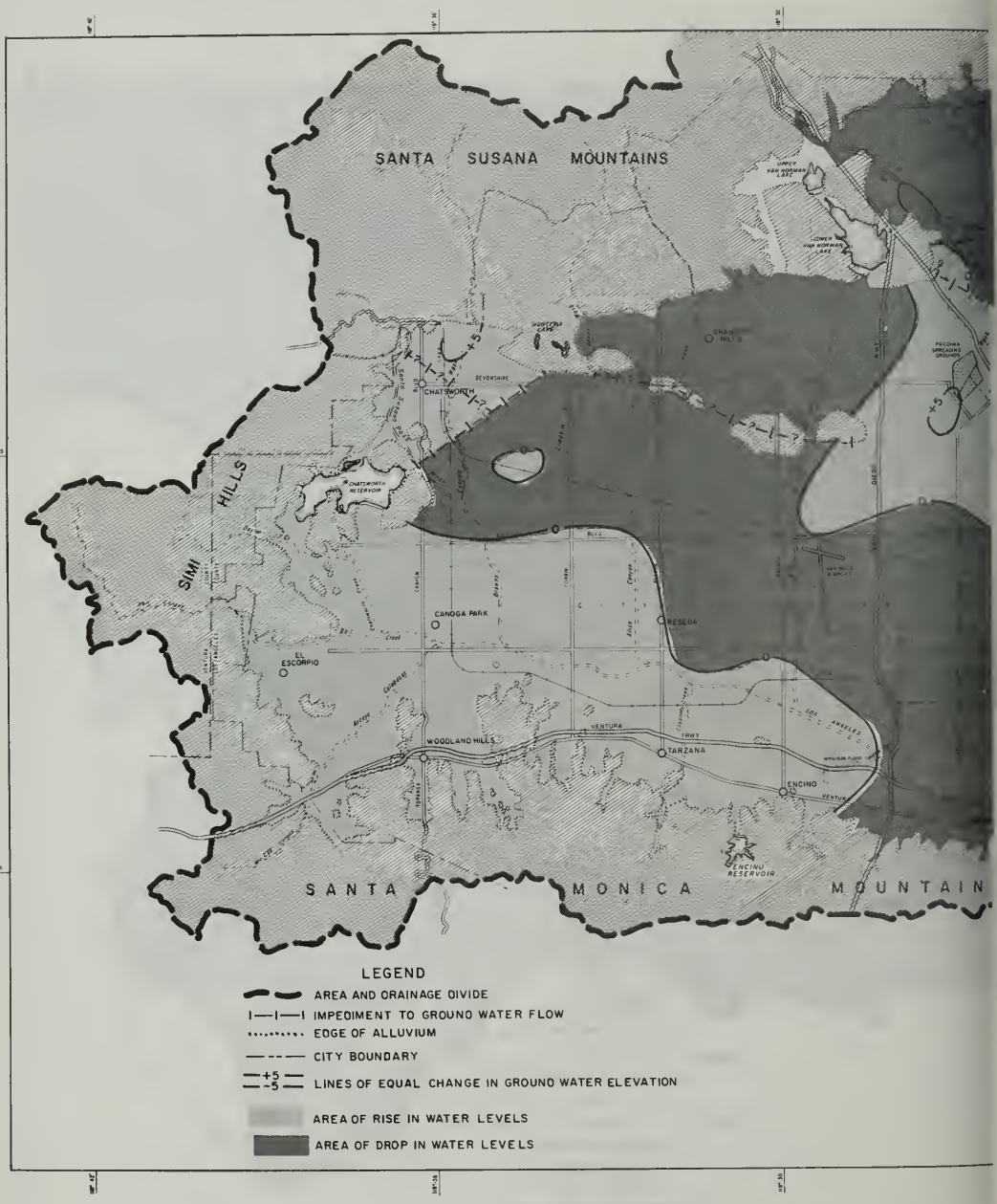
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

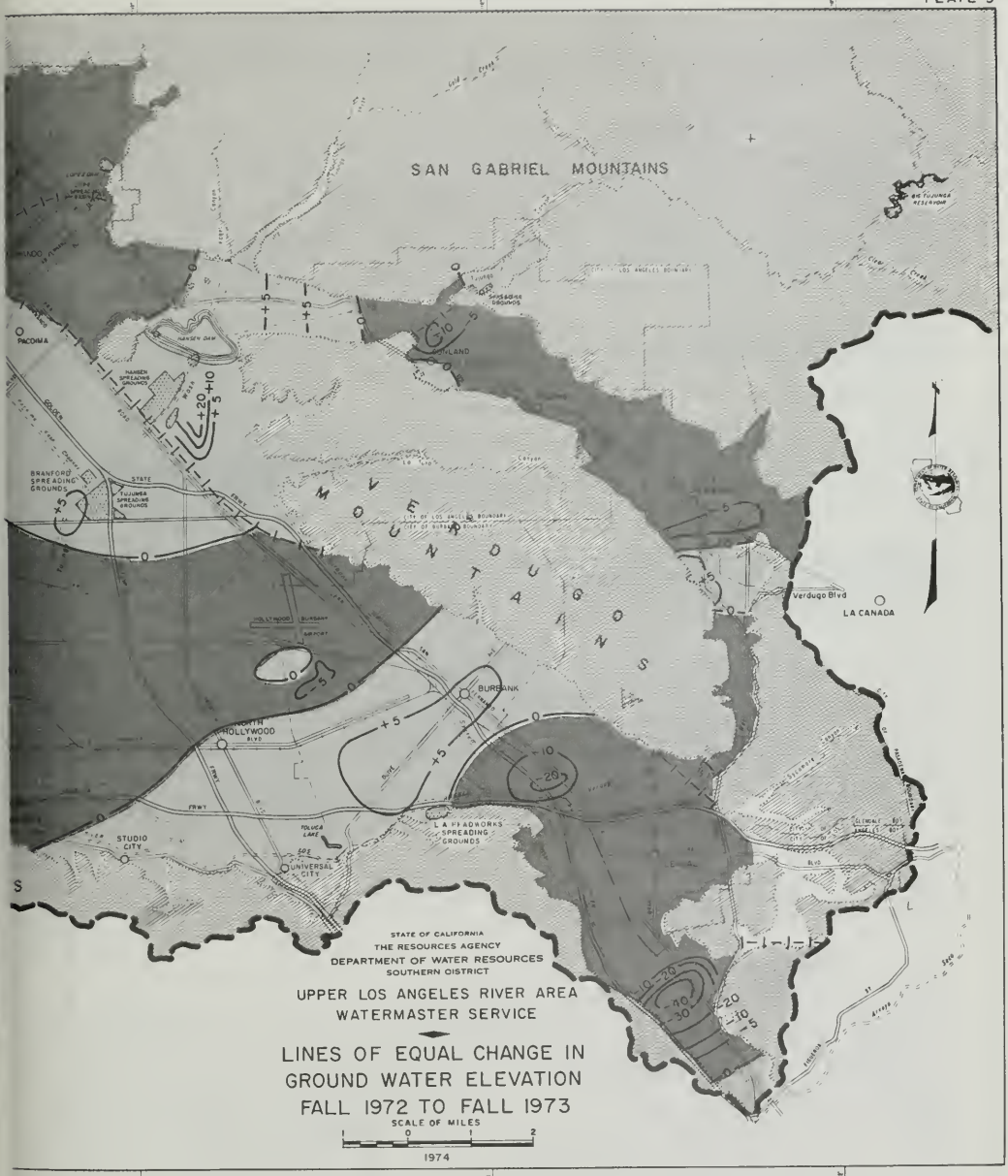
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE

LINES OF EQUAL ELEVATION OF GROUND WATER FALL 1973

SCALE OF MILES
1 0 1 2

1974


SANTA SUSANA MOUNTAINS
SIMI HILLS
CHATSWORTH
DEVONSHIRE
CHATSWORTH RESERVOIR
CANOGA PARK
RESEDA
EL ESCORPIO
WOODLAND HILLS
VENTURA FRWY
TARZANA
ENCINO
ENCINO RESERVOIR
SANTA MONICA MOUNTAIN
LEGEND
AREA AND DRAINAGE DIVIDE
IMPEDIMENT TO GROUND WATER FLOW
EDGE OF ALLUVIUM
CITY BOUNDARY
+5
-5
LINES OF EQUAL CHANGE IN GROUND WATER ELEVATION
AREA OF RISE IN WATER LEVELS
AREA OF DROP IN WATER LEVELS


SAN GABRIEL MOUNTAINS
MOUNTAINS
PACOIMA
BRANFORD SPREADING GROUNDS
TUJUNGA SPREADING GROUNDS
BURBANK
HOLLYWOOD BLVD
STUDIO CITY
UNIVERSAL CITY
LA FLOODWORKS SPREADING GROUNDS
Verdugo Blvd
LA CANADA
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
LINES OF EQUAL CHANGE IN
GROUND WATER ELEVATION
FALL 1972 TO FALL 1973
SCALE OF MILES
0 1 2
1974

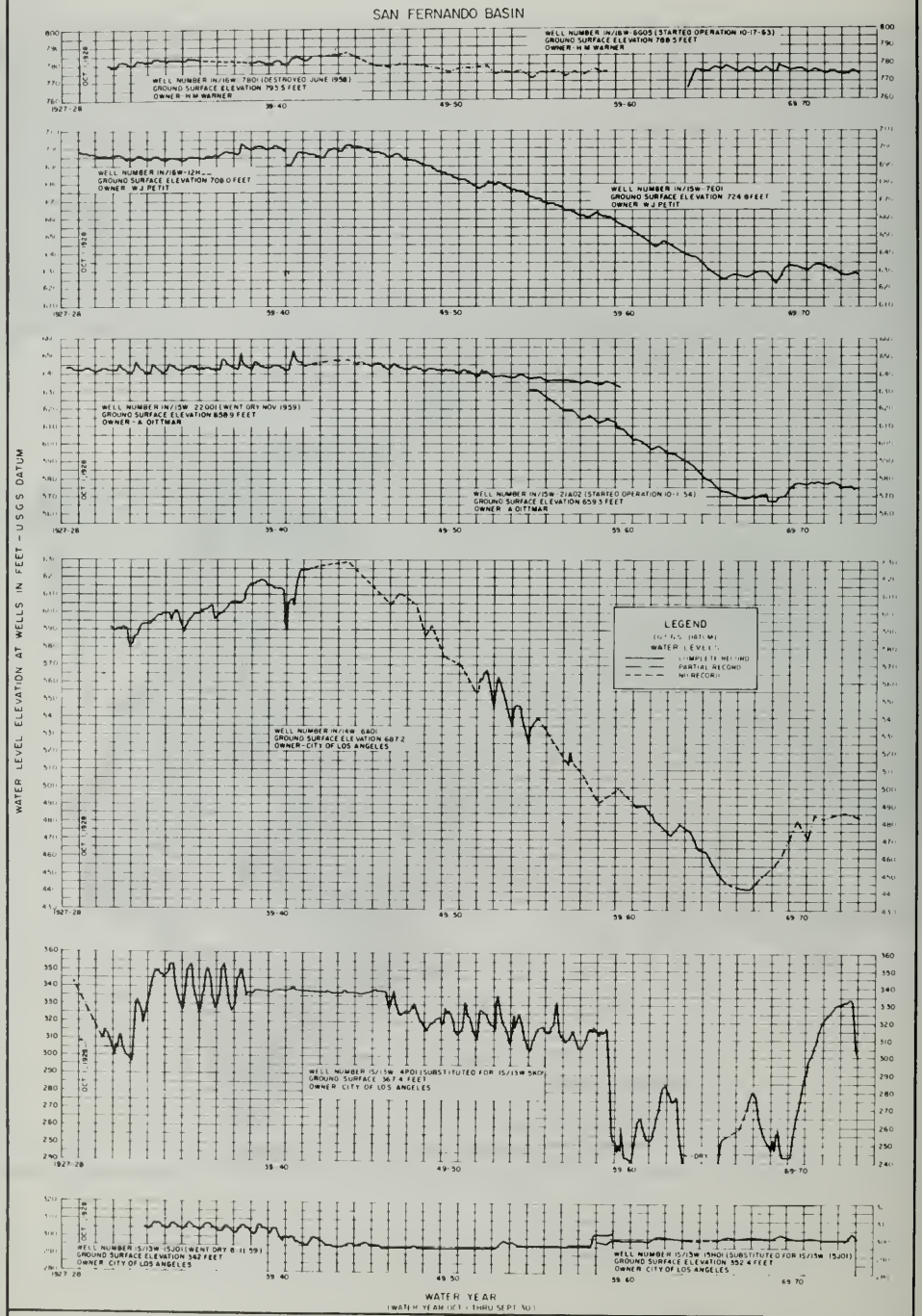


Figure 1—FLUCTUATION OF WATER LEVEL ELEVATION AT WELLS IN THE SAN FERNANDO BASIN

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1974

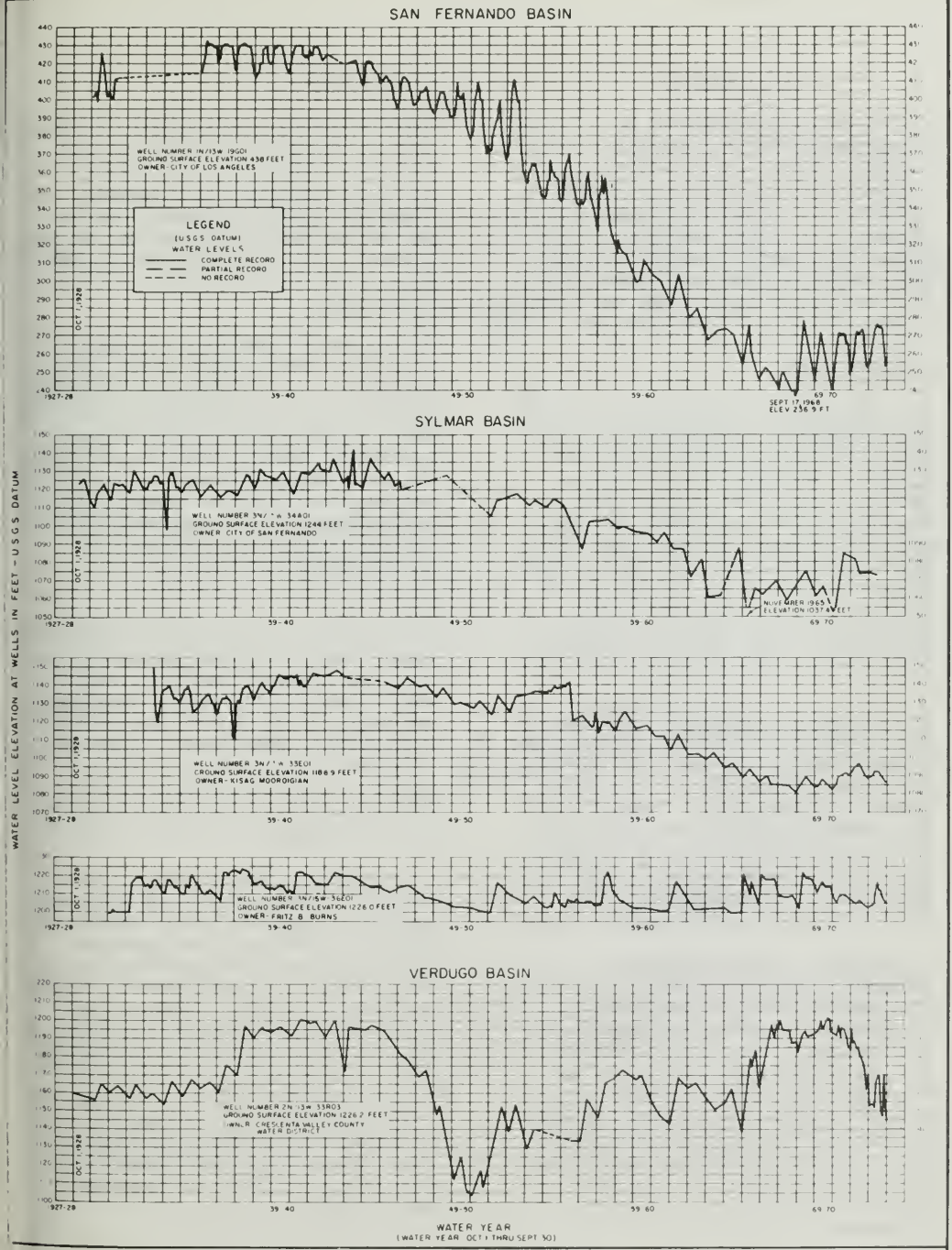


Figure 2 – FLUCTUATION OF WATER LEVEL ELEVATION AT WELLS IN THE SAN FERNANDO, SYLMAR AND VERDUGO BASINS

EPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1974

Water Quality

Water resources management must include water quality in the analysis of water supply factors. Water quality is in a constant state of flux as a result of changes made to the water supply environment by nature and by man. Monitoring the changes in water quality will always be important since it will be a measure of natural phenomena and of the effectiveness of management plans.

Imported Water

A. Owens River and Mono Basin Waters. The Los Angeles Aqueduct waters from Owens River and Mono Basin are of excellent quality, being of sodium-calcium bicarbonate in character. The TDS has averaged about 214 parts per million (ppm) for the past thirty years prior to 1969. The highest TDS content on record was 322 ppm, occurring on April 1, 1946, the minimum being on September 17, 1941, when it was 149 ppm. The three-year downward trend in TDS was reversed in 1972-73.

B. Colorado River Water. Colorado River waters are predominately sodium-calcium sulfate in character, changing to sodium sulfate after treatment to reduce total hardness. Samples taken at Burbank turnout between 1941 and 1973 indicate a TDS high of 875 ppm in August 1955 and a low of 625 ppm in April 1959. The average for the 32-year period is approximately 743 ppm.

C. Northern California Water. Northern California Water is of sodium-calcium bicarbonate-chloride-sulfate in character. Water from this source will generally contain less TDS and will be softer than local water and Colorado River water. From its first release in ULARA in May 1972, through September 1973, the TDS has averaged 331 ppm and hardness has averaged 164 ppm. Water quality should improve as storage in Castaic Reservoir is increased.

Surface Water

Surface runoff contains salts dissolved from rocks existing in each of the tributary areas. Surface waters are calcium bicarbonate in character. Low flows above the Los Angeles Narrows had an average TDS content of 647 and a total hardness of 230 ppm in 1972-73.

Ground Water

Ground water from the major water-bearing formations are of two general characters, each reflecting the composition of the surface runoff within the area. Ground water in the western portion of ULARA is calcium sulfate in character whereas water coming from the eastern portion of the area including Sylmar Basin and Verdugo Basin is calcium bicarbonate in character. Ground waters in ULARA are classed as moderately hard to very hard.

Ground waters in the area are generally within the recommended limits set by U.S. Public Health Service drinking water standards. Possible exceptions are wells in the western end of the valley which have excess concentrations of sulfate and waters from the wells of the lower part of the Verdugo Basin which have abnormally high concentrations of nitrate.

Water quality studies indicate that except for short periods of time, the quality of imported waters from Owens River and Mono Basin and Northern California have been superior to native waters. Representative mineral analysis of imported, surface, and ground waters for 1972-73 are shown in Table 6. A comparison of the various water sources as to total dissolved solids, sulfate, and chloride content is shown graphically in Figure 3. Note that records for water from the State Water Project are shown on a monthly basis since use commenced in May of 1972.

TABLE 6. REPRESENTATIVE MINERAL ANALYSIS OF WATER

Well number or source	Date sampled	EC x 10^6 at 25°C	pH	Mineral constituents in Parts per million (ppm) / Equivalents per million (epm)											Total dissolved solids ppm	Total hardness as $CaCO_3$ ppm
				Ca	Mg	Na	K	CO_3	HCO_3	SO_4	Cl	NO_3	F	B		
IMPORTED WATERS																
Colorado River Water at Eagle Rock Reservoir	1972-73 (average)	1248	8.07	30 1.50	12 1.00	222 9.65	4.7 0.12	0.7 0.02	76 1.25	325 6.77	105 2.96	1.7 0.03	0.33 0.02	0.19 0.05	787	124
Owens River Water at Upper Van Norman Reservoir Inlet	1972-73 (average)	341	8.34	26 1.30	5.3 0.44	35 1.52	3.7 0.09	1.2 0.04	69 1.14	27 0.56	16 0.45	0.8 0.01	0.52 0.03	0.47 0.13	211	87
State Project Water at Joseph Jensen Filtration Plant (Effluent)	1972-73 (average)	584	8.30	39 1.95	16.8 1.38	53 2.31	3.0 0.08	0.2 0.01	125 2.05	96 2.00	59 1.66	1.0 0.02	0.4 0.02	0.20 0.05	340	167
SURFACE WATER																
Los Angeles River at Sepulveda Blvd.	12-6-72	1250	8.33	126 6.30	41 3.42	96 4.17	5.2 0.13	2.5 0.08	138 2.26	318 6.63	83 2.34	22 0.35	—	—	920	480
	5-2-73	1580	8.33	131 6.55	47 3.92	140 6.09	6.2 0.16	2.2 0.07	120 1.96	393 8.19	162 4.56	16 0.26	—	—	1180	520
Los Angeles River at Burbank-Western Wash	12-6-72	991	7.66	58 2.90	19 1.58	104 4.52	12 0.31	0.3 0.01	82 1.34	187 3.90	88 2.48	23 0.37	—	—	630	220
	5-2-73	1020	7.71	64 3.20	20 1.67	107 4.65	9.6 0.25	0.4 0.01	94 1.54	179 3.73	92 2.59	26 0.42	—	—	664	240
Los Angeles River at Brazil Street	12-6-72	967	8.50	86 4.30	26 2.17	82 3.57	6.0 0.15	2.4 0.08	103 1.69	225 4.69	67 1.89	19 0.31	—	—	684	322
	5-2-73	916	9.10	74 3.70	27 2.25	74 3.22	3.9 0.10	9.0 0.30	90 1.50	160 3.33	87 2.45	30 0.48	—	—	592	294
GROUND WATERS																
(SAN FERNANDO BASIN - WESTERN PORTION)																
2N/16W-27F02 (Reseda No. 8)	9-26-73	1210	7.20	156 7.80	32 2.67	67 2.91	1.6 0.04	0.3 0.01	156 2.56	304 6.33	50 1.41	20 0.32	0.3 0.02	—	762	520
(SAN FERNANDO BASIN - EASTERN PORTION)																
1N/14W-06Q01 (No. Hollywood #13)*	8-5-73	502	7.83	58 2.90	13 1.08	21 0.91	2.5 0.06	0.5 0.02	84 1.38	39 0.81	18 0.51	26 0.42	0.5 0.03	—	316	200
(SAN FERNANDO BASIN - L.A. NARROWS)																
1S/13W-04L03 (Pollock No. 6)	5-3-73	1060	7.60	102 5.10	37 3.08	66 2.87	2.1 0.05	0.3 0.01	134 2.20	211 4.40	81 2.28	12 0.19	0.3 0.02	—	668	406
(SYLMAR BASIN)																
2N/15W-04B02 (Mission No. 1)	10-4-73	798	7.10	98 4.89	23 1.89	37 1.61	3.7 0.09	0 0	142 2.33	130 2.70	27 0.77	20 0.32	0.33 0.02	—	436	340
(VERDUGO BASIN)																
1N/13W-10P03 (Gloriette No. 3)	10-24-73	758	6.70	85 4.24	26 2.13	40 1.74	3.0 0.07	0 0	162 2.66	86 1.79	70 1.97	77.6 1.25	—	—	569	319

*Substituted for North Hollywood #19.

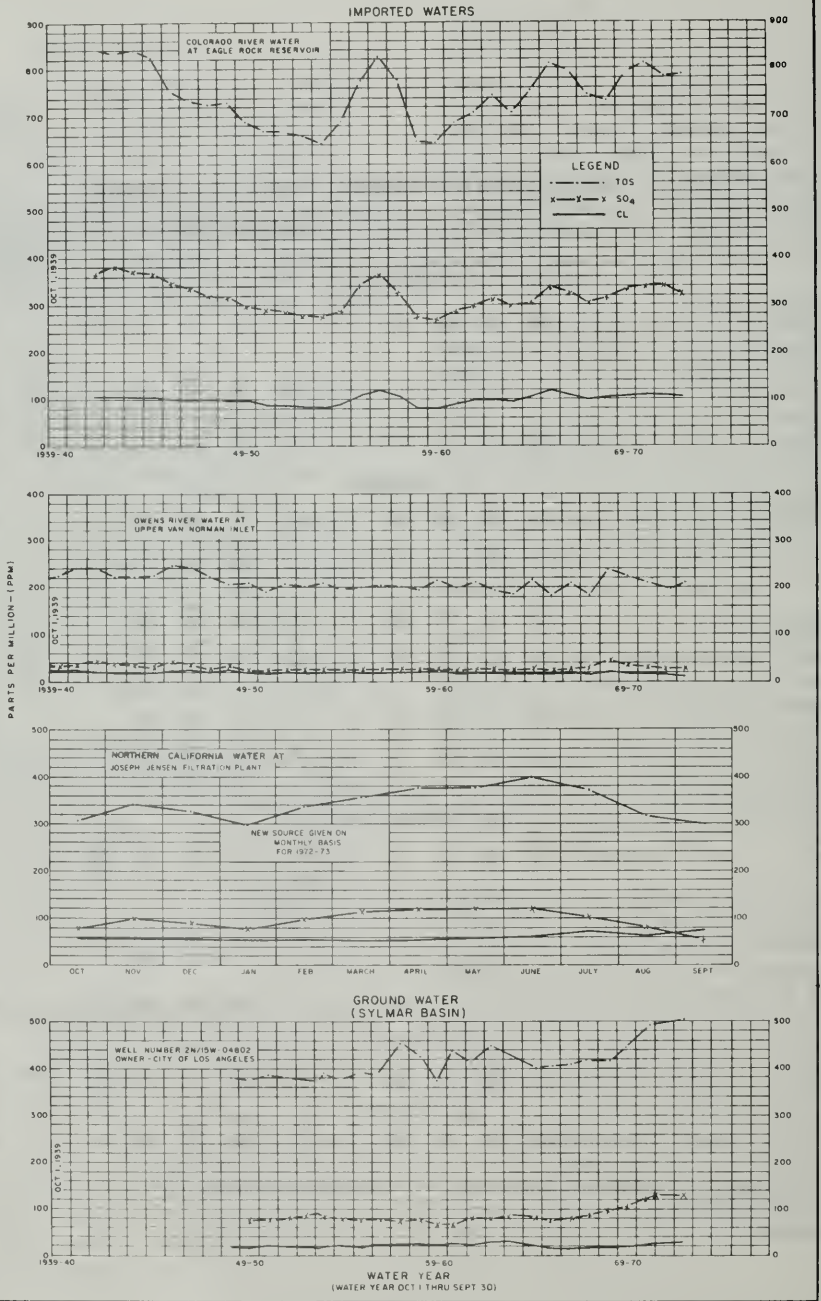


Figure 3 - TOTAL DISSOLVED SOLIDS, SULFATE, AND CHLORIDE OF WATER SOURCES IN ULARA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1974

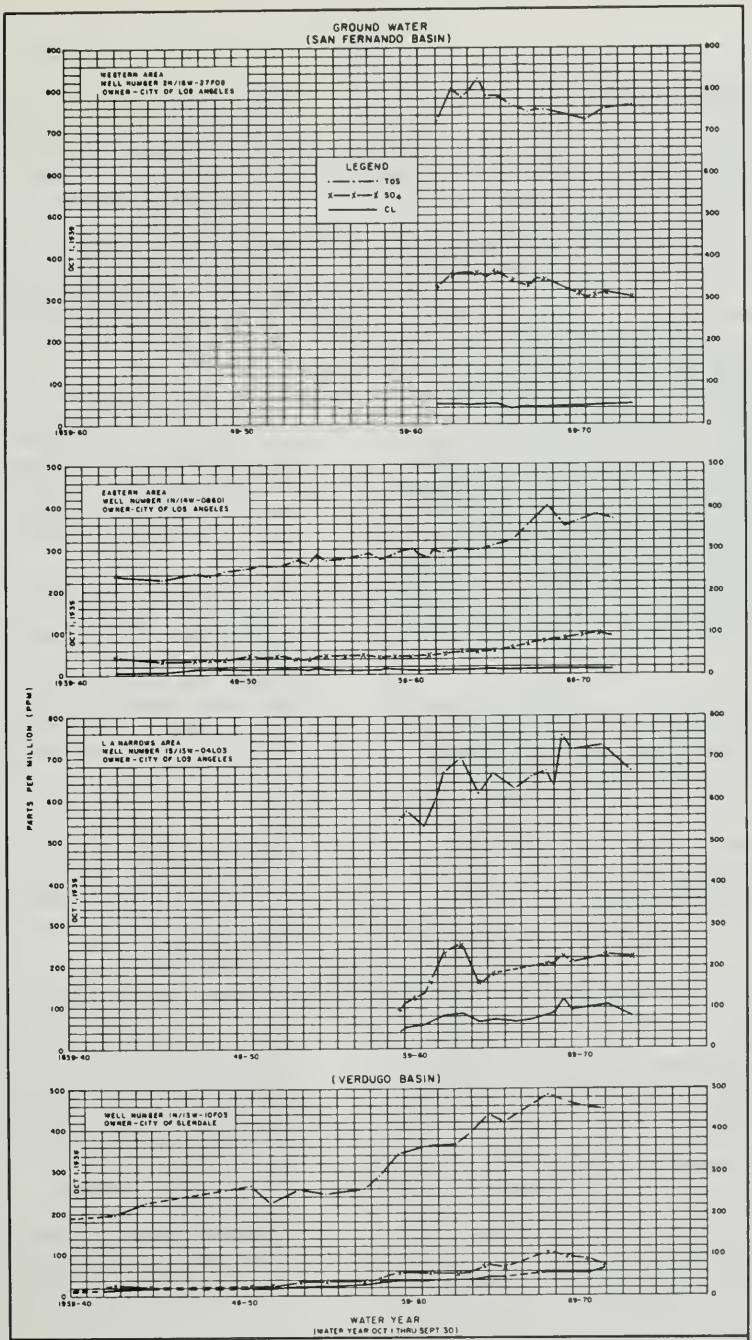


Figure 3 (Cont.) - TOTAL DISSOLVED SOLIDS, SULFATE, AND CHLORIDE OF WATER SOURCES IN ULARA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT, 1974

Ground Water Contamination by Gasoline

During the 1972-73 water year, progress continued toward abating gasoline pollution near Forest Lawn Cemetery. The history of this major water quality problem was described in the 1968-69 and 1969-70 Watermaster reports.

The Western Oil and Gas Association (WOGA) has continued its efforts to abate the pollution. The California Regional Water Quality Control Board, Los Angeles Region, and the State Water Resources Control Board are exercising leading roles to insure effective and expeditious abatement. The Department of Water Resources has advised the Boards regarding the technical aspects of abatement. The City of Los Angeles Department of Water and Power (LADWP) and WOGA have maintained an effective monitoring program in the area of gasoline pollution.

Progress reports, five in all, have been submitted by WOGA to the Los Angeles Regional Board. The most recent report[1/] has been used to describe herein the progress to date.

The locations and other features currently related to the monitoring and pumping programs are shown in Figure 4. The cleanup program was discussed in the 1971-72 report.

Plans have been initiated to reduce the number of wells being pumped and monitored. In addition, 12 wells were destroyed (see Appendix D). These plans and the destruction of wells were approved by the Regional Board.

As of September 1973, occasional slight traces of gasoline are still evident at W-34 and W-37 in the Newman Field, at W-52 in the Rosslyn Field, and at Wells W-50 and W-63 in the San Fernando Field. Seldom is there now a trace of gasoline in the Cox Field wells, but strong gasoline odors are still reported from these wells. Gasoline odors are present also in wells in the Newman and Rosslyn Field, but, since October 1970, the occurrence of gasoline odor has been absent from southerly and westerly fringe wells except for one instance of a slight trace of gasoline in W-29 on September 6, 1973. In the six months before July 1, as in the previous six months, there has been no evidence of any further spread of free gasoline or of gasoline odors.

There have been variations in the groun water table elevations at many wells. In the first six months of the year, water levels in the Forest Lawn, Rosslyn, Newman, and Cox Fields have decreased, while southerly of the Southern Pacific wells, water levels have increased.

Pumping rates in the four fields (Cox, Newman, Rosslyn, and San Fernando) were drastically reduced on June 1, 1972, to conserve ground water and yet pump enough to remove any free gasoline that may accumulate in these fields. Pumping is being continued to maintain a slight gradient to prevent any possible spread of gasoline-tainted ground water

Selected wells have been pumped continuously over the time covered by this report. These wells are: W-2 and W-3 (Cox Field), W-37 (Newman Field), W-51 (Rosslyn Field), and W-50 and W-63 (San Fernando Field). Wells F-3 and F-6 have been pumped continuously since February, and Well F-2 was pumped continuously by WOGA from February until early May, when it was returned to Forest Lawn. Wells 52, 53, and 58 were pumped about one day per week at the beginning of the year, but the intermittent pumping was discontinued in May at the request of the LADWP during the Pollock well tests.

There has been no measurable removal o free gasoline at any plant since January 1972. Any traces of free gaso line, and much of the dissolved gasoli pumped are skimmed off periodically.

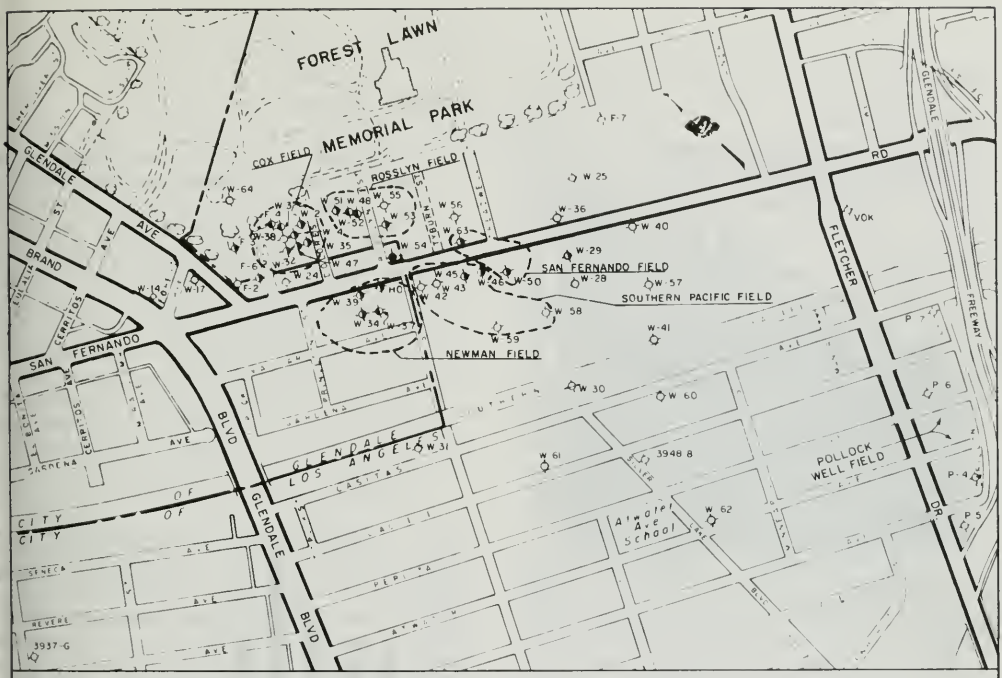


Figure 4- GASOLINE POLLUTION-
FOREST LAWN, GLENDALE, LOS ANGELES

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT 1974

It is anticipated that bacterial activity (biodegradation) will eventually remove all traces of dissolved and pellicular gasoline.

WOGA has been attempting to get more oxygen into the soil near the water table in an attempt to accelerate bacterial degradation of dissolved and pellicular gasoline. This final clean-up program involves: (a) pulling a slight vacuum on some wells in an attempt to draw air (and thus oxygen) through the soil, (b) injecting air into other wells, and (c) recycling ground water by extraction and injection (29 acre-feet in Cox Field) so as to build up a ground water mound that can diffuse outwardly.

1/ "Progress Report to Los Angeles Regional Water Quality Control Board on Amelioration of Ground Water Contamination by Gasoline near San Fernando Road in Glendale and Los Angeles". July 1, 1973.

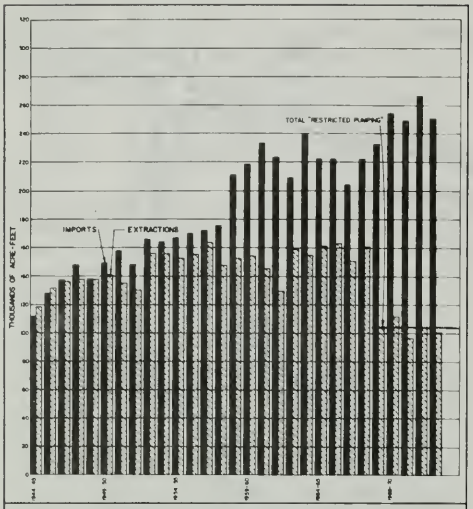


Figure 5 - GROUND WATER EXTRACTIONS AND USE OF IMPORTED WATER IN UPPER LOS ANGELES RIVER AREA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT 1974

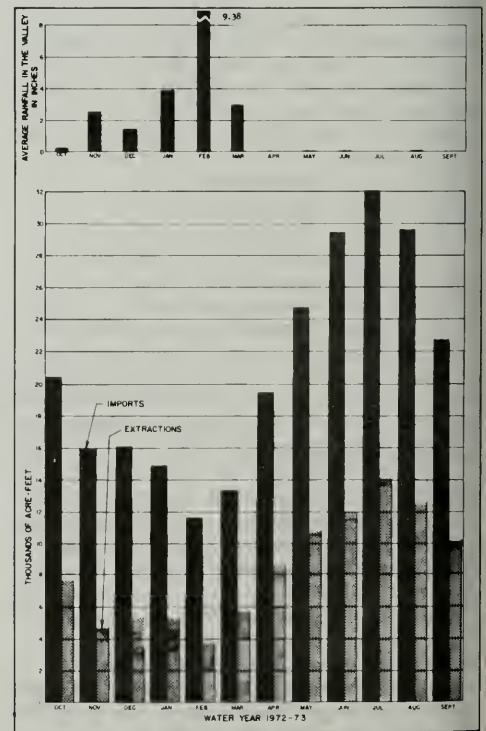


Figure 6 - MONTHLY WATER DEMAND AND AVERAGE RAINFALL IN UPPER LOS ANGELES RIVER AREA

DEPARTMENT OF WATER RESOURCES, SOUTHERN DISTRICT 1974

III. WATER USE AND DISPOSAL

Water delivered for use in ULARA is either imported water, local ground water, local surface diversions, or a mixture, depending on the area and water system operation. During the 1972-73 water year, water purveyors in ULARA served approximately 291,890 acre-feet of water to their customers. Of this total, approximately 41,200 acre-feet were extracted and the remaining 250,670 acre-feet were imported. The basin contains 571 wells of which 170 are active, and 401 are observation, test, capped, etc. wells. Four wells were drilled and 15 were destroyed.

The adjudication of ground water rights in ULARA restricted all ground water extractions effective October 1, 1968. On that date, ground water extractions were restricted to approximately 104,000 acre-feet per water year. This amounted to a reduction of approximately 50,000 acre-feet below the previous 6-year average.

Under the Judgment, no determination was made regarding overdraft or surplus in the Eagle Rock Basin. Therefore, no restrictions on ground water extractions are imposed on the Eagle Rock Basin.

Except for Sparkletts Drinking Water Corporation and Deep Rock Water Company, there are no parties to the Judgment that extract water from Eagle Rock Basin. The safe yield of the basin, under 1964-65 conditions, was set at 70 acre-feet.

The restriction on ground water extractions has been a great factor in the increase of imported water to ULARA during the past four years.

Figure 5 graphically illustrates the annual ground water extractions and total water imported to ULARA beginning with 1944-45 water year. Note the change during years 1968-69 through 1972-73.

It can also be noted that for the 10 years before restricting pumping, imports exceeded extractions by 50,000 to 60,000 acre-feet per year and that for the five water years 1968-69 - 1972-73, the difference jumped to between 120,000 to 160,000 acre-feet. Due to restricted pumping in ULARA, any substantial increase in water demand in the future will show in an increase of imports only.

Figure 6 provides another graphical analysis of the monthly relationship between rainfall, ground water extractions, and imported supply. This graph is representative of the entire ULARA and not a specific ground water basin within ULARA. The precipitation values were obtained from those stations that are located on the valley floor. (See Table 1.)

Ground Water Extractions

By letter dated April 26, 1968, the Watermaster informed all parties that were known to be active, that ground water extractions within ULARA would be reduced and controlled by the Watermaster in accordance with the Judgment. The ULARA Judgment limits the amount of ground water each party can extract annually from each of the separate basins to an amount referred to as "Restricted Pumping".

Table 7 presents a balance sheet which summarizes each party's water account by listing its "Restricted Pumping" (see Appendix A for any changes); allowable carryover from 1971-72; any additional allowable pumping as

TABLE 7. RESTRICTED PUMPING AND QUANTITIES EXTRACTED AND ASSIGNED

In acre-feet

Party	(1) Restricted Pumping	(2) Allowable carryover from 1971-72	(3) Assignments in Restricted Pumping[a]	(4) Allowable extraction 1972-73 (1)+(2)+(3)=4	(5) Amount Extracted	(6) Balance (4)-(5)=(6)	(7) Allowable carryover into 1973-74
SAN FERNANDO BASIN							
Bartholomaus, William O. and Ellen S. Dubois	15.00	0.00	- 15.00	0.00	0.00	0.00	0.0
Burbank, City of	13,649.00	0.24	+ 196.00[b]	13,845.24	13,720.01	125.23[d]	125.2
Conrock Company[a]	0.00	0.00	+1,550.00[b]	1,550.00	1,782.05[c]	- 232.05[d]	0.0
Forest Lawn Memorial Park Assoc.	814.00	52.77	- 453.71	413.06	393.60	19.46	19.4
Glendale, City of	12,405.00	440.34	+ 350.00	13,195.34	11,637.02	1,558.32	1,558.3
Harper, Cecilia DeMille	0.00	3.63	+ 18.71[b]	22.34	7.63	14.71[d]	1.8
Livingston-Graham, Inc.	0.00	0.00	+ 450.00[b]	450.00	663.17	- 213.17[d]	0.0
Lockheed Aircraft Corporation	239.00	0.00	- 239.00	0.00	0.00[f]	0.00	0.0
Los Angeles, City of	63,257.00	- 881.29[g]	-4,150.00	58,225.71	57,872.13[f]	353.58	- 299.6
(Pursuant to "Stipulation for Emergency Spreading and Extraction")		- 978.92[h]		- 978.92[j]	0.00	- 978.92	- 978.9
McCabe, Celeste Louise	1.00	0.10		1.10	0.00	1.10	0.1
Mena, John and Barbara	0.00	- 3.84		- 3.84	0.96	- 4.80	- 4.8
Monteria Lake Association	0.00	- 13.46		- 13.46	0.00	- 13.46	- 13.4
Riverwood Ranch Mutual Water Co.	0.00	3.20	32.00[b]	35.20	28.58	6.62	3.2
Sears, Roebuck and Company	0.00	0.00	+ 250.00[b]	250.00	320.18	- 70.18[d]	0.0
Southern Service Company, Ltd.	0.00	3.29	+ 75.00	78.29	70.57	7.72	7.5
Sportsmen's Lodge, Inc.	0.00	- 1.75	+ 16.00	14.25	7.30	6.95	1.6
Toluca Lake Property Owners' Association	23.00	2.30		25.30	24.59	0.71	0.7
U.S. Mortgage	0.00	0.00		0.00	0.00	0.00	0.0
Valhalla Memorial Park	184.00	1.59	+ 20.00	205.59	197.49	8.10	8.1
Van de Kamp's Holland Dutch Bakers, Inc.	93.00	8.30		101.30	7.19	94.11[d]	9.3
Walt Disney Productions	0.00	0.00	+1,900.00[b]	1,900.00	2,037.80	- 137.80[d]	0.0
Subtotals	90,680.00	-1,363.50	0.00	89,316.50	88,770.27	546.23	438.9
SYLMAR BASIN							
Brown, Charles T.	0.00	2.00		2.00	8.00	- 6.00	- 6.0
Church of Jesus Christ of Latter-Day Saints	0.00	- 952.96		- 952.96	51.72	-1,004.68	-1,004.6
Fidelity Federal Savings and Loan Association	609.00	48.90		657.90	2.48	655.42	60.9
Los Angeles, City of	2,818.00	8.56		2,826.56	2,809.92	16.64	16.6
Moordigian, Kisag	46.00	0.60	- 40.00	6.60	0.00	6.60	0.6
San Fernando, City of	2,737.00	1,237.63[k]	+ 40.00	4,014.63	3,004.11	1,010.52	1,010.5
Subtotals	6,210.00	344.73	0.00	6,554.73	5,876.23	678.50	77.9
VERDUGO BASIN							
Crescenta Valley County Water District	3,294.00	5.44		3,299.44	3,295.83	3.61	3.6
Glendale, City of	3,856.00	385.60	0.00	4,241.60	2,964.38	1,277.22	385.6
Subtotals	7,150.00	391.04	0.00	7,541.04	6,260.21	1,280.83	389.2
ULARA TOTALS	104,040.00	- 627.73	0.00	103,412.27	100,906.71[f]	2,505.56	905.7

a/ Refer to Table 10 and Appendix A for information concerning assignments of "Restricted Pumping" or prior ownership.
b/ Reduction in City of Los Angeles extraction pursuant to separate Stipulated Judgment.
c/ Includes 40.84 acre-feet extracted by California Materials Company which merged with Conrock Company.
d/ Reverts to City of Los Angeles as a carryover.
e/ Includes 282.82 acre-feet, authorized by Advisory Board and Watermaster, see Appendix A.
f/ Excludes extractions from Reseda Wells which totaled 501.80 acre-feet
g/ Includes year-end balance of parties to Stipulated Judgments.
h/ Amount to be returned to basin by spreading imported water or foregoing right to extract water or by combination of bot
j/ No credit for spreading imported water applied pursuant to "Stipulation for Emergency Spreading and Extraction".
k/ Allowable carryover by special Watermaster authorization. Amount to be extracted in following three years. See Chapter IV of this report for details.

the results of a water right assignment; amount of ground water extracted during the 1972-73 water year; and the amount that can be carried forward to the succeeding water year.

In order to provide flexibility in the control of ground water extractions, the Judgment contains various provisions which allow parties to carry over into the succeeding water year a portion of their unused water right and, in some cases, to overextract. This flexibility clause was provided to assist the parties in meeting unforseen emergencies in water demands. One provision allows parties to carry over from one water year to another any unused "Restricted Pumping" up to an amount not to exceed 10 percent of their "Restricted Pumping".

The flexibility clause also allows parties to overextract up to an amount equal to 10 percent of their "Restricted Pumping". However, any overextraction will be deducted from the "Restricted Pumping" in the succeeding water year. Chapter IV contains additional information on this provision.

In addition to the flexibility clause, the City of San Fernando is allowed, by the Judgment, to exceed its assigned "Restricted Pumping" in Sylmar Basin. The additional allowance for the City of San Fernando is described in the Judgment as "Physical Solution-Sylmar Basin". This provision allows the City of San Fernando to extract up to 850 acre-feet of water per year in addition to the amount that it has received under its "Restricted Pumping". If the City of San Fernando takes, diverts, or extracts water in addition to its "Restricted Pumping", it must immediately notify the City of Los Angeles and the Watermaster in writing, and the City of Los Angeles must reduce its extractions in an amount equal to the amount that the City of San Fernando has exceeded its rights. Chapter IV describes the 1972-73 operation.

The Judgment, in Section IV, also allows various parties to divert and extract water from the San Fernando Basin in accordance with the terms and conditions of the stipulated Judgments between the City of Los Angeles and said parties (Case No. 650,079). The City of Los Angeles, in turn, shall deduct from its "Restricted Pumping" for each year, the aggregate amount of water extracted pursuant to the separate stipulated Judgments.

At the commencement of each water year, the City of Los Angeles advises the Watermaster of the estimated amount of water each party to the stipulated Judgments will pump during the water year (see Appendix A). The City then reduces its extractions in the San Fernando Basin in an amount equal to the estimates. For each subsequent year, the City of Los Angeles will reduce its extractions by the amount of water that said stipulated parties' extractions exceeded the estimates for the preceding year. Should the stipulated parties' extractions be less than the estimate for that year, the City of Los Angeles may increase its extractions by that amount in the next succeeding year.

The February 1971 earthquake resulted in such heavy damage to the City of San Fernando's water facilities and the City of Los Angeles' terminal storage complex at Van Norman Reservoir, that changes in allowable ground water extractions for these two parties were required. As a result, the City of Los Angeles was allowed to exceed its "Restricted Pumping" in the San Fernando Basin pursuant to the "Stipulation for Emergency Spreading and Extraction" (see Appendix A, 1970-71 report). Table 7 shows a separate accounting of this item. The City of San Fernando, in turn was allowed to extract the unused 1970-71 water right balance of 1,526.06 acre-feet in the ensuing three water years.

A further explanation of this authorization is discussed in Chapter IV.

The metered ground water production from each active well is listed by basin and by party in Appendix B, Table B-1. This tabulation presents the total ground water production as reported by each party. Plates 6 and 7 depict the service area wherein each party delivers its water supply.

Extractions by Nonparties

In order to keep the parties and the Court apprised of all the ground water extractions within ULARA, the Watermaster has attempted to seek and collect information on nonparty ground water extractions.

A nonparty is an entity which was not named in the ULARA water right suit. These nonparties and parties which were dismissed by the court do not come under the jurisdiction of the Watermaster.

To the best of the Watermaster's knowledge, and information on hand, the Western Oil and Gas Association, The Metropolitan Water District of Southern California, and Glen A. Berry are the only nonparties extracting ground water within ULARA.

No report on ground water extractions is made as to the parties dismissed from the action: Glenhaven Memorial Park, Incorporated; Los Angeles County Waterworks District No. 21, etc., which are still active pumpers in the hill and mountain areas of ULARA.

Ground water extracted by The Metropolitan Water District of Southern California (MWD) and Western Oil and Gas Association is also shown in Table B-1. Extractions by Glen A. Berry are estimated at 3 acre-feet per year (see Chapter IV) and are not shown in Table B-1.

Water Wells in ULARA

The Report of Referee described the wells in ULARA according to a number-location identification system devised by the Los Angeles County Flood Control District. However, the Watermaster has redesignated the wells in accordance with its recording system.

A state well numbering system was adopted by the State several years ago which utilizes the United States Public Land Survey System. A graphical illustration and description of the coding system in ULARA is shown in Figure 7.

Each water well in ULARA was assigned a state well number in order to simplify the administration of the Judgment and the monitoring of ground water extractions. A cross-index between State well numbers and County numbers was completed in March 1972, and made available to all interested parties.

Plate 2 on page 9 shows the location of all wells (party and nonparty) known to be in existence by the Watermaster as of September 30, 1973. The wells are plotted and coded in accordance with the above procedure and that shown in Figure 7.

Wells reported to the Watermaster as having been drilled or destroyed in 1972-73 are listed in Appendix D.

As a matter of course, the Watermaster locates all new wells by survey and assigns a new state well number. The parties that submit detailed information as to the location of the well will preclude the Watermaster's requirement for a survey. Each party is required to notify the Watermaster whenever a new well is drilled or a well is destroyed.

State well numbers that identify each water well in ULARA are derived from a system based on the U.S. Public Land Survey. Each number consists of township and range designation, a section number, a letter representing the 40-acre tract in which the well is situsted, a sequence number indicating the chronological order in which the well number was assigned, and a letter representing the base and meridian. The last letter is frequently omitted from well numbers in a single area because all wells there share a single base and meridian. Well numbers are assigned by the Watermaster.

The components of well No. 1N/14W-12C03S, for example, are identified in the following breakdown:

Township	Range	Section	Tract	Sequence number	Base and meridian
1N	14W	12	C	03	S

The derivation of the components is illustrated below:

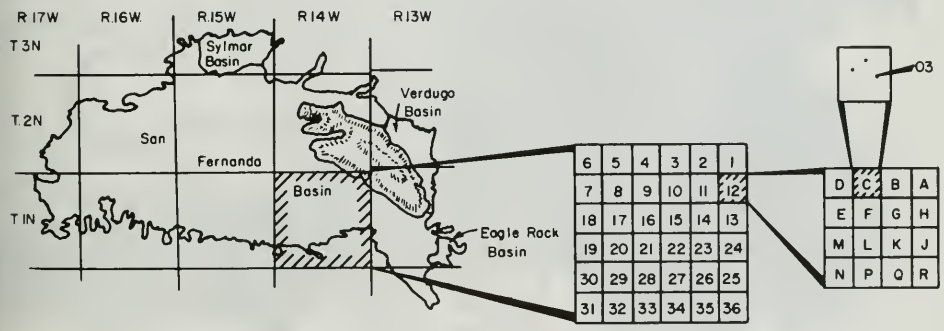
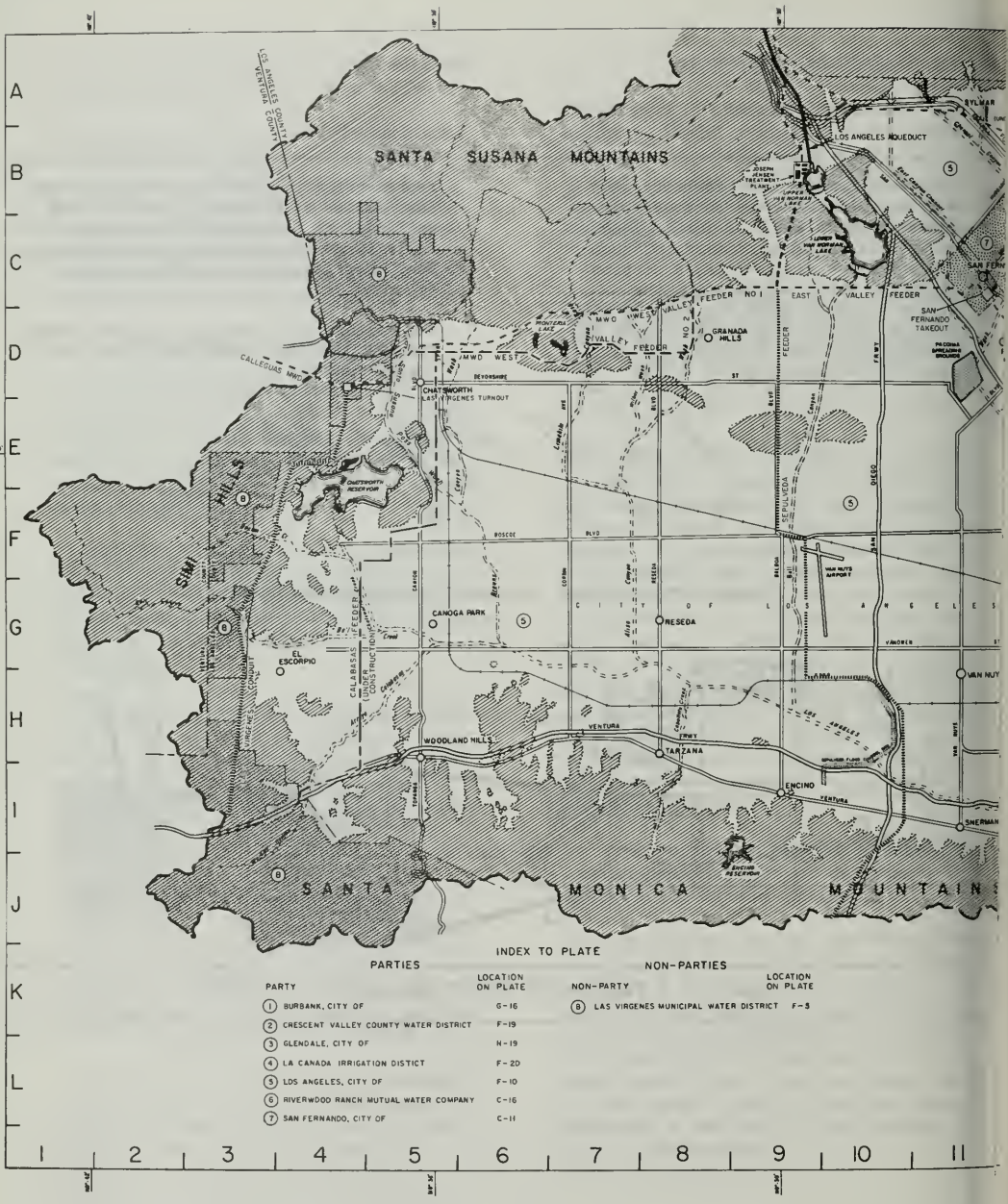


Figure 7 SYSTEM FOR WATER WELL IDENTIFICATION



INDEX TO PLATE

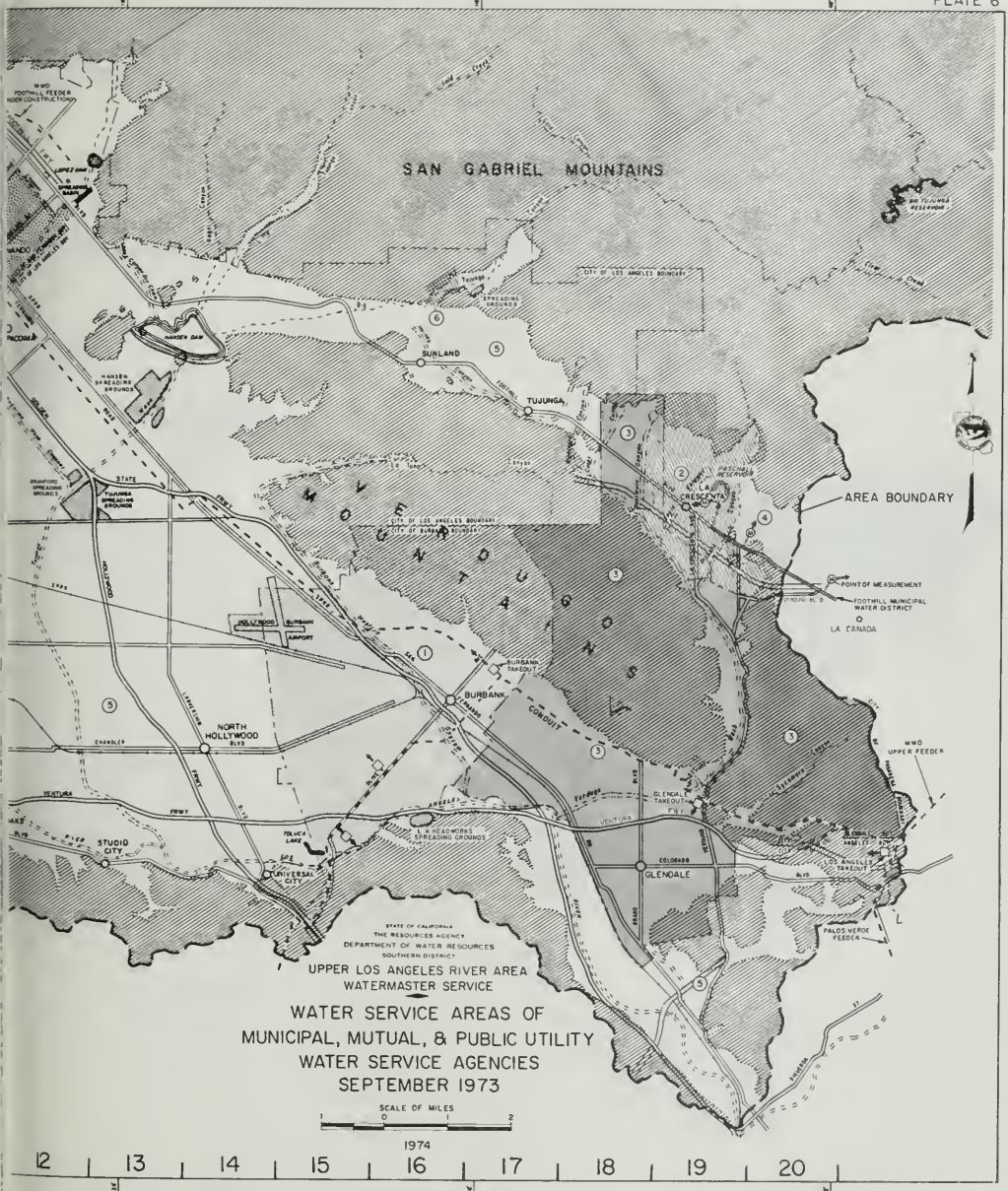
PARTIES

PARTY	LOCATION ON PLATE
(1) BURBANK, CITY OF	G-16
(2) CRESCENT VALLEY COUNTY WATER DISTRICT	F-19
(3) GLENDALE, CITY OF	H-19
(4) LA CANADA IRRIGATION DISTICT	F-20
(5) LOS ANGELES, CITY OF	F-10
(6) RIVERWOOD RANCH MUTUAL WATER COMPANY	C-16
(7) SAN FERNANDO, CITY OF	C-11

NON-PARTIES

NON-PARTY	LOCATION ON PLATE
(8) LAS VIRGENES MUNICIPAL WATER DISTRICT	F-5

PLATE 6



STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT

UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE

WATER SERVICE AREAS OF MUNICIPAL, MUTUAL, & PUBLIC UTILITY WATER SERVICE AGENCIES SEPTEMBER 1973

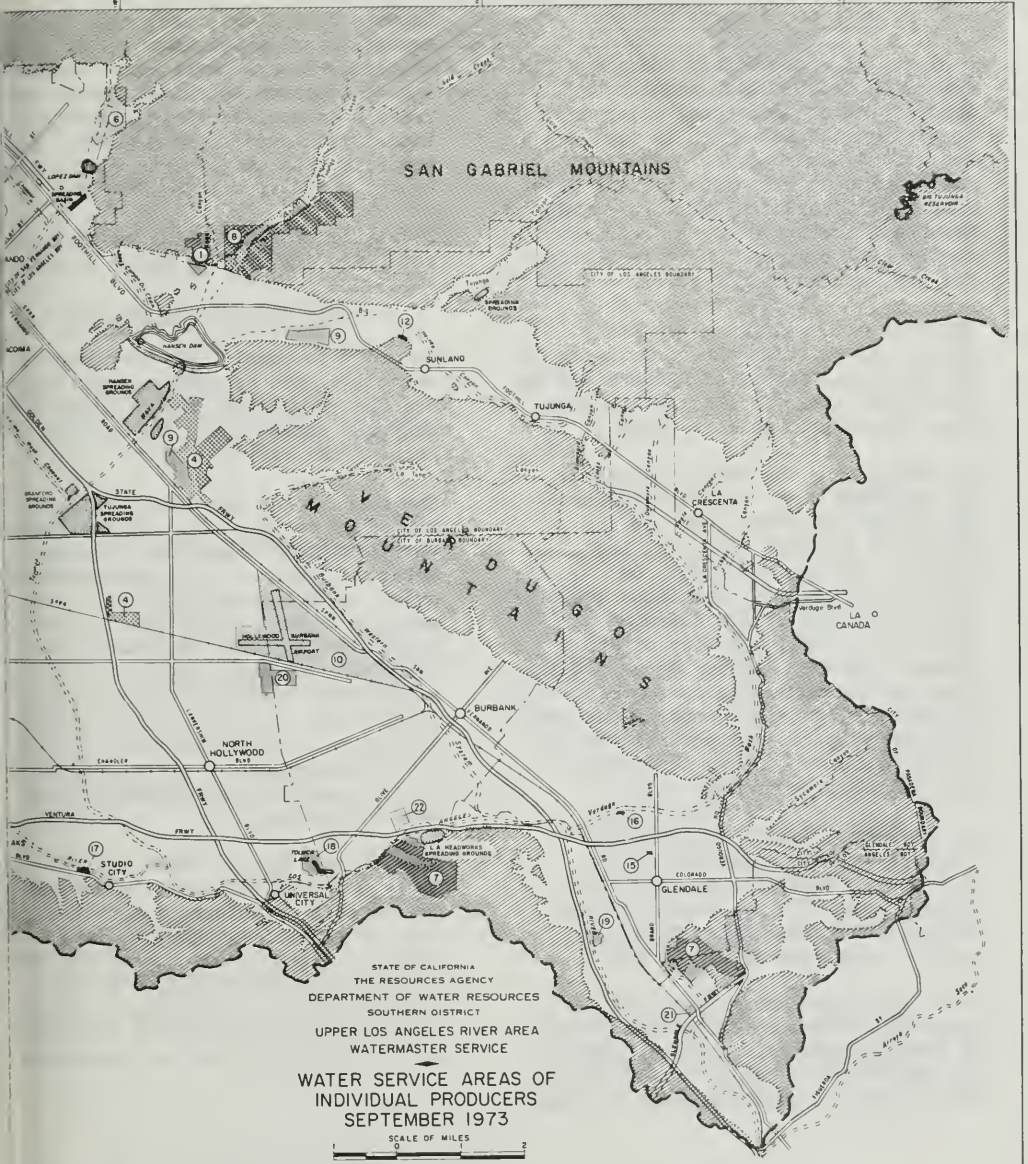
INDEX TO PLATE
WATER SERVICE AREAS OF PARTIES

AREA NUMBER		LOCATION ON PLATE
1	BARTHOLOMAUS, WILLIAM O. AND ELLEN S. DUBOIS	C-14
2	BROWN, CHARLES T.	B-11
4	CONROCK CO.	E-14, G-13
5	CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS	A-10
6	FIDELITY FEDERAL SAVINGS AND LOAN ASSN.	B-13
7	FOREST LAWN MEMORIAL PARK	I-16, J-19
8	HARPER, CECILIA DEMILLE	C-14
9	LIVINGSTON-GRAHAM, INCORPORATED	G-15, E-14
10	LOCKHEED AIRCRAFT CORPORATION	G-15
11	MCCABE, CELESTE LOUISE	*
12	MENAL, JOHN AND BARBERA	O-16
13	MONTERIA LAKE ASSOCIATION	D-16

AREA NUMBER		LOCATION ON PLATE
14	MOORDIGIAN, KISAG	B-10
15	SEARS, ROEBUCK AND COMPANY	I-18
16	SOUTHERN SERVICE COMPANY, LIMITED	I-18
17	SPORTSMEN'S LODGE, INCORPORATED	I-12
18	TOLUCA LAKE PROPERTY OWNERS' ASSOCIATION	I-15
19	U.S. MORTGAGE	J-18
20	VALHALLA MEMORIAL PARK	H-14
21	VAN DE KAMP'S HOLLAND DUTCH BAKERS, INC.	K-19
22	WALT DISNEY PRODUCTIONS	I-16

* No service area

PLATE 7


SAN GABRIEL MOUNTAINS
SUNLAND
TUJUNGA
LA CRESCENTA
LA CANADA
MOUNTAINS
BURBANK
NORTH HOLLYWOOD
STUDIO CITY
UNIVERSAL CITY
GLENDALE
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
SOUTHERN DISTRICT
UPPER LOS ANGELES RIVER AREA
WATERMASTER SERVICE
WATER SERVICE AREAS OF INDIVIDUAL PRODUCERS
SEPTEMBER 1973
SCALE OF MILES
1974
12
13
14
15
16
17
18
19
20

Imports and Exports of Water

Residential, commercial, and industrial expansion within ULARA requires the importation of additional water supplies to supplement that which is provided by the ground water basins. The City of Los Angeles and The Metropolitan Water District of Southern California (MWD) have kept abreast of this demand by continuing to expand their facilities for the importation of water.

The City of Los Angeles now has a second aqueduct capable of bringing in an additional supply of Owens River and Mono Basin water at the rate of more than 130 million gallons a day.

In addition to the City's aqueducts, the Colorado River aqueduct constructed by MWD, delivers water to the Cities of Burbank, Glendale, Los Angeles, and San Fernando. On November 9, 1971, by unanimous approval of a resolution by the Board of Directors of MWD, the City of San Fernando became a member agency of MWD. Thus, San Fernando can now obtain supplemental water on a permanent basis from MWD supplies and participate in all programs for future development and distribution of such water.

The Crescenta Valley County Water District and La Canada Irrigation District also import Colorado River water through the facilities of the Foothill Municipal Water District, which is a member agency of MWD.

The State Water Project now delivers water from Northern California to MWD at Castaic Reservoir, thence through the MWD Foothill Feeder to the Joseph Jensen Water Filtration Plant in ULARA.

Exports from ULARA, exclusive of sewage, are limited to the City of Lo Angeles, which exports water consisting of imported water and ground wate. Table 8 summarizes the nontributary imports and exports from ULARA. Groui water imports and exports within and out of ULARA are listed in Table 9.

Facilities for importing nontributary water are depicted on Plate 6, page 3.

Physical Data by Basins

In order to comply with the Court's directive, the Watermaster has collec ted and summarized data on Table 9 wh ch show the water supply and disposal ir each of the basins.

The information for Table 9 was submitted by the parties. In instances where estimates were made, such as water delivered to hill and mountain areas, sewage exported, etc., estimates were made by the parties and based upon methods consistent with previous estimates computed by the State Water Resources Control Board (SWRCB) for the San Fernando Valley Reference. The Watermaster likewise made computations of subsurface outflows based on similar computations made by the SWRCB.

Some of the figures submitted for Table 9 are partially estimated due to the lack of information at the time of submittal. However, the actual figures based on measured val:s are subsequently submitted to the Watermaster for its permanent record file. The revised data is available at your request from the Watermaster

TABLE 8. ULARA IMPORTS AND EXPORTS

Source and Agency	Quantity, in acre-feet	
	1971-72	1972-73
IMPORTS		
Colorado River Water		
Burbank, City of	9,526	0
Crescenta Valley County Water District	1,094	1,030
Glendale, City of	8,270	182
Los Angeles, City of	6,493	3,306
La Canada Irrigation District	919	819
Las Virgenes Municipal Water District (nonparty)	694	196
San Fernando, City of	142	0
	27,138	5,533
Northern California Water		
Burbank, City of	2,746[a]	10,700
Glendale, City of	2,684[a]	8,972
Las Virgenes Municipal Water District (nonparty)	963[b]	10,234
San Fernando, City of	365[a]	76
	6,758	29,982
Owens River Water		
Los Angeles, City of	459,084[c,d]	453,916[d]
Total	492,980[c]	489,431
EXPORTS		
Owens River Water		
Los Angeles, City of	-228,903[c]	-238,762
Net Import	264,077[c]	250,669

a/ Deliveries began July 1, 1972
b/ Deliveries began April 24, 1972
c/ Last year's figure was updated
d/ This value represents the summation of the gross amount of water delivered to and exported from ULARA. It does not include operational releases, reservoir evaporation, and water spread during the year.

TABLE 9. SUMMARY OF WATER SUPPLY AND DISPOSAL BY BASINS

In acre-feet

SAN FERNANDO BASIN

Water source and use	City of Burbank	City of Glendale	City of Los Angeles	City of San Fernando	All others	Total
Extractions						
Total quantity	13,720	11,637	57,872[a]	0	6,064[b]	89,293[a]
Used in valley fill	13,090	6,456	10,057	0	5,541[b]	35,144[b]
Imports						
Colorado River Water	0	120	1,098	0	196	1,414
Owens River Water	--	--	447,034	--	--	447,034
Northern Calif. Water	10,700	5,920	0	76	10,234	26,930
Ground water from Sylmar Basin	--	--	2,810	2,734	0	5,544
Exports						
Ground water:						
to Verdugo Basin	--	4,385	0	--	0	4,385
out of ULARA	--	--	50,624	--	0	50,624
Owens River Water:						
out of ULARA	--	--	238,762	--	--	238,762
to Eagle Rock Basin	--	--	1,569	--	0	1,569
Colorado River:						
to Verdugo Basin	--	62	0	--	0	62
Northern Calif. Water:						
to Verdugo Basin	--	3,052	--	--	--	3,052
Water delivered to hill and mountain areas						
Ground water	630	796	0	0	0	1,426
Owens River Water	--	--	32,089	--	--	32,089
Colorado River Water	0	16	1,309	0	196	1,521
Northern Calif. Water	491	812	0	0	10,234	11,537
Water outflow						
Surface						113,959[c]
Subsurface						388
Sewers	12,507[d]	16,455	74,990	1,365	784	106,101

SYLMAR BASIN

Water source and use	City of Los Angeles	City of San Fernando	All others	Total
Extractions				
Total quantity	2,810	3,004	428[e]	6,242
Used in Valley Fill	0	230	62[e]	292
Imports				
Owens River Water	5,965	--	--	5,965
Exports				
Ground water: to San Fernando Basin	2,811	2,734	0	5,545
Water delivered to hill and mountain areas				
Owens River Water	312	--	--	312
Water outflow				
Surface				5,000[f]
Subsurface: to San Fernando Basin				483
Sewers	750	135	0	885

TABLE 9. SUMMARY OF WATER SUPPLY AND DISPOSAL BY BASINS (Continued)
In acre-feet

VERDUGO BASIN

Water source and use	Crescenta Valley County Water District	City of Glendale	La Canada Irrigation District	City of Los Angeles	Total
Extractions					
Total quantity	3,296	2,964	0	0	6,260
Used in Valley Fill	3,202	2,604	0	0	5,806
Imports					
Colorado River Water	1,030	62	819	0	1,911
Owens River Water	--	--	--	917	917
Northern Calif. Water	0	3,052	0	0	3,052
Ground water from:					
San Fernando Basin	--	4,385	--	0	4,385
Exports	0	0	0	0	0
Water delivered to hill and mountain areas					
Colorado River Water	29	8	0	0	37
Owens River Water	--	--	--	293	293
Northern Calif. Water	0	371	0	0	371
Ground water from:					
Verdugo Basin	94	360	0	0	454
San Fernando Basin	--	371	--	0	371
Water outflow					
Surface					9,408[g]
Subsurface:					
to Monk Hill Basin					300[h]
to San Fernando Basin					65
Sewage	0	1,635	0	0	1,635

EAGLE ROCK BASIN

Water source and use	City of Los Angeles	Deep Rock Water Company	Sparkletts Drinking Water Corporation	Total
Extractions				
Total quantity	0	7	136	143
Used in Valley Fill	0	0	0	0
Imports				
Owens River	1,569	---	---	1,569
Colorado River	2,208	---	---	2,208
Ground water	0	0	0	0
Exports				
Ground water	0	7	136	143
Water delivered to hill and mountain areas				
Colorado River Water	1,345	---	---	1,345
Owens River Water	619	---	---	619
Water outflow				
Surface				---[j]
Subsurface				50[k]
Sewers	2,030	0	0	2,030

a/ Excludes production from Reseda wells which amounted to 502 acre-feet.
b/ Excludes production of 523 acre-feet by Western Oil and Gas Association (nonparty).
c/ Measured at Station F-57C where the 29-year mean (1929-57) base low flow is 7,580 acre-feet.
d/ Includes reclaimed waste water which infiltrates into the ground water basin after being discharged in L. A. River and while on route to gaging station F-57C.
e/ Excludes 366 acre-feet of water from San Fernando Tunnel which is being built by MWD.
f/ Surface outflow is not measured. Calculated average surface outflow by Mr. Laverty - SF Exhibit 57.
g/ Information obtained from Station F-252R.
h/ Based on 29-year average (1929-57).
j/ Information not available.
k/ Estimated in Supplemental No. 2 to Report of Referee for dry years 1960-61. Currently, data not available for direct evaluation.

IV. ADMINISTRATION OF THE JUDGMENT

The Department of Water Resources as Watermaster in the Upper Los Angeles River Area, administers the Judgment and keeps the Court fully apprised of any violations or changes in administration.

Assignments of Restricted Pumping

In accordance with the provisions of the Judgment, the Watermaster records all changes of ownership, transfer, or assignment of Restricted Pumping rights. Table 10 lists all assignments, parties, and amounts involved. Appendix "A" records the documents used to assign Restricted Pumping rights by each of the parties as of September 30, 1973. During the 1972-73 water year, the City of Los Angeles submitted estimates on the amounts to be extracted by those parties having separate stipulated Judgments with the City of Los Angeles. The clause, which allows the parties with stipulated Judgments to extract ground water under the City of Los Angeles' Restricted Pumping right, is covered by Section V, Paragraph 2 of the Judgment. The City of San Fernando did not exercise its right to purchase water from the City of Los Angeles

TABLE 10. ASSIGNMENTS OF RESTRICTED PUMPING

Party	Assignment and amount, in acre-feet			Party
		San Fernando Basin		
Pursuant to Stipulated Judgments				
Conrock Company[a/]	Stipulated	1,550.00[b/,c/]	from	Los Angeles, City of
Livingston-Graham, Inc.	Stipulated	450.00[c/]	from	Los Angeles, City of
Sears, Roebuck and Company	Stipulated	250.00[c/]	from	Los Angeles, City of
Walt Disney Productions	Stipulated	1,900.00[c/]	from	Los Angeles, City of
Pursuant to License				
Burbank, City of	Licensed	15.00	from	Bartholomaus, William O. and Dubois, Ellen S.
Burbank, City of	Licensed	181.00	from	Lockheed Aircraft Corporation
Glendale, City of	Licensed	350.00	from	Forest Lawn Memorial Park Association
Harper, Cecilia de Mille	Licensed	18.71	from	Forest Lawn Memorial Park Association
Southern Service Company	Licensed	75.00	from	Forest Lawn Memorial Park Association
Sportsmen's Lodge, Inc.	Licensed	10.00	from	Forest Lawn Memorial Park Association
Sportsmen's Lodge, Inc.	Licensed	6.00	from	Lockheed Aircraft Corporation
Valhalla Memorial Park	Licensed	20.00	from	Lockheed Aircraft Corporation
		Sylmar Basin		
Pursuant to License				
San Fernando, City of	Licensed	40.00	from	Moordigian, Kisag

a/ Formed by merger of California Materials Company and Consolideted Rock Products Company.
b/ Includes 250.00 acre-feet stipulated to California Materials Company by City of Los Angeles, prior to its merger with Conrock Company
c/ Estimate submitted by City of Los Angeles, see Appendix A.

pursuant to the "Physical Solution-Sylmar Basin", which is described in Section VII, Paragraph 2 of the Judgment.

In addition to the Cities of Los Angeles and San Fernando, a number of parties availed themselves of the opportunity to license water rights to meet their water demands.

In order that a water right license or sale agreement be in force during the water year, it will be the Watermaster's policy that it be signed before or during the water year in question. Failure to submit a license or sale document with the Watermaster by August 31 of the water year in question may be considered as evidence that such an agreement was never consummated during such water year.

Overextractions

In restricting ground water extractions in ULARA, it was foreseen that there would be unavoidable fluctuations in water usage occurring from year to year. Therefore, the flexibility clause was included in the Judgment which allowed each party to vary its extractions within reasonable limits so that it could pump more or less than its "Restricted Pumping", with equivalent debits or credits being applied to its extractions in the subsequent water year.

The provisions described in Section VIII of the Judgment, allows each party a flexibility of 10 percent of its Restricted Pumping right. In other words, a party may underpump or overpump by ten percent of its Restricted Pumping and in the succeeding water year increase or decrease (whichever is applicable) its pumping by the same amount. Table 11 summarizes all overextractions and violations of the Judgment.

Of the 9 parties that exceeded their allowable extraction for 1972-73, four were in violation of the Judgment.

TABLE II. OVEREXTRACTIONS
In acre-feet

Party	(1) Restricted Pumping[a]	(2) Allowable carryover from 1971-72	(3) Allowable extraction 1972-73 (1)+(2)=(3)	(4) Amount extracted	Overextractions (5) Amount (3)-(4)=(5)	(6)[b] Allowable (1)x10%	(7) In percent (5):(1) /100=(7)
San Fernando Basin							
Conrock Company	1,550.00	0.00	1,550.00	1,782.05	- 232.05	---[c]	
Livingston-Graham Inc.	450.00	0.00[d]	450.00	663.17	---[c]		
Los Angeles, City of	59,107.00	- 1,860.21[d]	57,246.79	57,872.13	- 625.34[a]	6,325.70[f]	0.99[f]
Mena, John and Barbara	0.00	- 3.84	- 3.84	0.96	- 4.80	0.00	--[g]
Monteria Lake Association	0.00	- 13.46	- 13.46	0.00	- 13.46	0.00	--[g]
Sears, Roebuck and Company	250.00	0.00	250.00	320.18	- 70.18	---[c]	
Walt Disney Productions	1,900.00	0.00	1,900.00	2,037.80	- 137.80	---[c]	
Subtotals	63,257.00	- 1,877.51	61,379.49	62,676.29	-1,296.80		
Sylmar Basin							
Brown, Charles T.	0.00	2.00	2.00	8.00	- 6.00	0.00	--[g]
Church of Jesus Christ of Latter-Day Saints	0.00	- 952.96	- 952.96	51.72	-1,004.68	0.00	--[g]
Subtotals	0.00	- 950.96	- 950.96	59.72	-1,010.68		
TOTALS	63,257.00	- 2,828.47	60,428.53	62,736.01	-2,307.48		

a/ Refer to Column (1)+(3), Table 7.
b/ Computed as 10 percent of Column (1) unless otherwise noted.
c/ Party entitled to extract ground water per stipulated Judgment with City of Los Angeles. The City will, in succeeding water year, decrease its extractions by the amount of the overextraction shown under Column (5).
d/ Includes 978.92 acre-feet overextracted in 1970-71 pursuant to "Stipulation for Emergency Spreading and Extraction".
e/ Not to be considered an overextraction per se, as the "Stipulation for Emergency Spreading and Extraction" permits the City of Los Angeles to overextract.
f/ For City of Los Angeles, the allowable overextraction is 10 percent of its "Restricted Pumping" shown in Column (1) of Table 7.
g/ Party in violation of the Judgment either as a result of having a zero water right or having exceeded its allowable extraction by 10 percent of its "Restricted Pumping" shown in Column (1).

The parties in violation are subject to possible court action. Recommendations are discussed under "Findings, Determinations and Recommendations by the Watermaster."

Table 11 also lists four parties that are subject to the Stipulated Judgment with the City of Los Angeles. These parties' extractions, in excess of the estimates submitted by the City of Los Angeles, will be adjusted against the City's Restricted Pumping right during the 1973-74 water year. As such, the parties in question are not considered to be in violation of the Judgment.

Findings, Determinations and Recommendations by the Watermaster

The Watermaster finds four parties in violation of the Judgment as a result of overextractions during the 1972-73 water year. The parties in violation are John and Barbara Mena, Monteria Lake Association, Charles T. Brown, and The Church of Jesus Christ of Latter-Day Saints. All four parties have zero water rights.

John and Barbara Mena extract approximately 1 acre-foot a year for domestic purposes; they have not been requested by the Watermaster to lease water rights to make up their overextractions; however, since their accumulated carryover deficit is now approximately 5 acre-feet, it would be desirable that they lease sufficient water rights during the 1973-74 water year to offset the deficit.

Monteria Lake Association has not extracted any water since the 1968-69 water year; however, the Association account continues to show an accumulated carryover deficit since they have not leased any water rights to offset the accumulated overextractions. They were advised by letter dated March 5, 1971, from the Watermaster, that they eliminate their deficit; as of this date the Association has not taken any action. Therefore: THE WATERMASTER DOES HEREBY RECOMMEND THAT THE COURT TAKE ACTION AGAINST MONTERIA LAKE ASSOCIATION FOR NONCOMPLIANCE.

Charles T. Brown's overextraction was an inadvertant action since he had assumed he had an on going lease. He has now taken action to lease sufficient rights to cover the overextraction and his 1973-74 water needs. The Watermaster recommends no action be brought against Charles T. Brown.

The fourth party that overextracted during 1972-73 did not appear to make any effort to eliminate its accumulated overextractions. At the conclusion of the 1971-72 water year they were advised by the Watermaster of the considerably large amount of overextraction and were asked to please advise the Watermaster what action they would take to correct the cited defficiency. As of January 15, 1974, no notification has been received by the Watermaster. Therefore: THE WATERMASTER DOES HEREBY RECOMMEND THAT THE COURT TAKE ACTION AGAINST THE CHURCH OF JESUS CHRIST OF LATTER-DAY SAINTS FOR NONCOMPLIANCE.

During the 1970-71 water year, the City of Los Angeles extracted a total of 2,055.92 acre-feet of water in accordance with the provisions of the "Stipulation for Emergency Spreading and Extractions" which was entered into by parties of ULARA as a result of the February 9, 1971 earthquake.

A total of 1,077.00 acre-feet of Owens River was spread during the 1970-71 water year to return to the ground water basin a portion of the water previously extracted. This left 978.92 acre-feet remaining to be returned (see Table 7). Owens River water was not available for spreading during the 1972-73 water year. Thus, the amount of water remaining to be paid back

remains the same (978.92 acre-feet). According to the City of Los Angeles, this quantity will be repaid in the near future by the spreading of imported waters pursuant to the provisions of the aforementioned emergency stipulation. The Stipulation for Emergency Spreading and Extraction is shown in Appendix A of the 1970-71 Watermaster Report.

During the February 4, 1972, ULARA Advisory Board meeting, a motion was made and approved that the City of San Fernando be allowed to extract its unused water right in the subsequent 3 water years. The Watermaster concurred with the Advisory Board's recommendation in view of the emergency conditions that prevailed subsequent to the earthquake of 1971, which prevented the City of San Fernando from pumping its proportionate share of ground water from the Sylmar basin.

The Watermaster subsequently approved, subject to the continuing jurisdiction of the Court, the City of San Fernando's allowable carryover for extraction in the three subsequent water years a total of 1,526.06 acre-feet of water which it was unable to utilize in 1970-71. During 1971-72 and 1972-73, the City extracted 288.43 and 227.11 acre-feet, respectively, of the carryover, leaving 1,010.52 acre-feet of water right which it may extract during the 1973-74 water year. A report describing the water system damages sustained by the City of San Fernando was presented in Appendix E of the 1971-72 report.

As was mentioned in Chapter III, to the best of the Watermaster's knowledge and information on hand, Glen A. Berry, the Western Oil and Gas Association, and The Metropolitan Water District of Southern California are the only nonparties extracting ground water in ULARA. The Watermaster has approved the latter two operations which are necessary for the control of gasoline pollution at Forest Lawn and the construction of the San Fernando Tunnel of the Metropolitan Water District Foothill Feeder.

Glen A. Berry drilled a well at his residence in Chatsworth on March 3, 1972 and is currently extracting ground water for his lawns, shrubs and trees. Mr. Berry was informed by letter dated June 20, 1972 of the ULARA Judgment which restricts ground water use in ULARA and places the use thereof under the Court's jurisdiction. The Watermaster has not tested the well capacity and at this time estimates the water use at approximately 3 acre-feet per year, based on water use of 2.8 acre-feet per acre per year used for lawns and shrubs.

Invoices for each party's proportionate share of the budget were mailed on or about April 1 and all payments were received prior to the deadline of May 1, 1972. Each party's proportionate share of the 1972-73 budget is shown on Table 13. A recapitulation for the Cities of Glendale and Los Angeles is made since they are billed in two separate basins.

During the fifth year of watermaster service the work load remained somewhat level. As a result, the expenditures in 1972-73 were slightly higher when compared with the 1971-72 fiscal year.

Income and expenditures for watermaster service during the 1972-73 fiscal year are shown in Table 14. In accordance with the California Water Code, any credit or debit balance remaining at the end of the fiscal year is carried forward into the succeeding fiscal year. The parties' share of the carryover into the 1973-7 fiscal year totaled $7,805.14.

TABLE 13. APPORTIONMENT OF PARTIES' SHARE OF 1972-73 BUDGET

Party	Mutually Prescriptive Right, in acre-feet	Apportionment to be paid
San Fernando Basin		
Burbank, City of	17,760	$ 1,685.90
Forest Lawn Memorial Park Association	1,060	100.62
Glendale, City of	16,141	1,532.21
Lockheed Aircraft Corporation	310	29.43
Los Angeles, City of	82,310	7,813.43
Valhalla Memorial Park	240	22.78
Van de Kamp's Holland Dutch Bakers, Inc.	120	11.39
Verdugo Basin		
Crescenta Valley County Water District	1,988	188.71
Glendale, City of	2,327	220.90
Sylmar Basin		
Fidelity Federal Savings and Loan Association	527	50.03
Los Angeles, City of	2,440	231.62
San Fernando, City of	2,370	224.98
TOTALS	127,593	$ 12,112.00
Recapitulation for:		
Glendale, City of	18,468	$ 1,753.11
Los Angeles, City of	84,750	$ 8,045.05

TABLE 14. STATEMENT OF JULY 1, 1972 – JUNE 30, 1973 INCOME AND EXPENDITURES

Item	Parties	State	Parties and State
Income			
From 1972-73 budget	$12,112.00	$12,112.00	$24,224.00
Balance from 1971-72	5,987.04	0.00	5,987.04
TOTAL INCOME	$18,099.04	$12,112.00	$30,211.04
Expenditures			
Salaries and wages	$ 7,420.41	$ 7,420.41	$14,840.82
Operating expenses			
Miscellaneous indirect cost[a]	2,179.69	2,179.69	4,359.38
Truck rental	237.19	237.19	474.38
Printing annual report	130.65	130.65	261.30
Electronic machine computing	238.74	238.73	477.47
Other[b]	87.22	87.23	141.11
TOTAL EXPENDITURES	$10,293.90	$10,293.90	$20,587.80
BALANCE	$ 7,805.14[c]	$ 1,818.10	$ 9,623.24

a/ Rent, utilities, auto rental, communications, retirement, employee's health plan, and workmen's compensation insurance.
b/ General supplies, mobile equipment operation, engineering contracts.
c/ Total credit to parties in 1973-74 fiscal year, subject to delayed charges or credits.

Approved Budget for 1973-74

The tentative budget for the fiscal year July 1, 1973, through June 30, 1974, was submitted by the Watermaster for review and approval by the Advisory Board on February 5, 1973. The parties had 30 days after the mailing of the annual report for submitting their objections to the 1973-74 budget which was made a part thereof.

No objections were received by March 31, 1973, and the budget became final. Invoices for each party's proportionate share of the budget were mailed on April 1 and all payments were made before May 1, 1973. Table 15 presents the 1973-74 budget as approved by the Advisory Board on February 5,1973. Each party's share of the 1973-74 budget is shown in Table 16.

Tentative Budget for 1974-75

In accordance with the Judgment, the Watermaster hereby submits a budget for the fiscal year July 1, 1974, through June 30, 1975. The tentative budget submitted herewith was reviewed and approved by the Advisory Board on February 4, 1974. The parties will have 30 days after the mailing of the annual report for submitting their objections to this budget.

If no objections are received by March 31, 1974, the budget will become final. Invoices for each party's proportionate share of the budget will be mailed on or about April 1 and payments will be due on or before May 1, 1974. Table 17 presents the 1974-75 budget as approved by the Advisory Board. Each party's share of the 1974-75 budget is shown in Table 18.

ABLE IS. APPROVED BUDGET FOR THE FISCAL YEAR JULY I, 1973 THROUGH JUNE 30, 1974

ULARA Watermaster Service Area

Salaries and wages	$17,304
Operating expenses	8,696
TOTAL BUDGET	$26,000
One-half payable by State	$13,000
One-half payable by parties to Judgment	$13,000
Less estimated funds on hand July 1, 1973	5,000
Amount to be billed	$ 8,000

APPROVED:

UPPER LOS ANGELES RIVER AREA ADVISORY BOARD

By _____
Robert James
Chairman

Date Feb. 5, 1973

STATE OF CALIFORNIA
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Southern District

By _____
James J. Doody
District Engineer
Southern District
and Watermaster

Date JAN 19 1973

TABLE 16. APPORTIONMENT OF PARTIES' SHARE OF 1973-74 BUDGET

Party	Mutually Prescriptive Right, in acre-feet	Apportionment to be paid
San Fernando Basin		
Burbank, City of	17,760	$ 1,113.54
Forest Lawn Memorial Park Association	1,060	66.46
Glendale, City of	16,141	1,012.03
Lockheed Aircraft Corporation	310	19.44
Los Angeles, City of	82,310	5,160.79
Valhalla Memorial Park	240	15.05
Van de Kamp's Holland Dutch Bakers, Inc.	120	7.52
Verdugo Basin		
Crescenta Valley County Water District	1,988	124.64
Glendale, City of	2,327	145.90
Sylmar Basin		
Fidelity Federal Savings and Loan Association	527	33.04
Los Angeles, City of	2,440	152.99
San Fernando, City of	2,370	148.60
TOTALS	127,593	$ 8,000.00
Recapitulation for:		
Glendale, City of	18,468	$ 1,157.93
Los Angeles, City of	84,750	$ 5,313.78

TABLE 17. TENTATIVE BUDGET FOR THE FISCAL YEAR JULY 1, 1974 THROUGH JUNE 30, 1975

ULARA Watermaster Service Area

Salaries and wages	$19,085	
Operating expenses	7,113	
TOTAL BUDGET		$26,198
One-half payable by State		$13,099
One-half payable by parties to Judgment		$13,099
Less estimated funds on hand July 1, 1974		1,099
Amount to be billed		$12,000

APPROVED:

UPPER LOS ANGELES RIVER
AREA ADVISORY BOARD

By Robert E. James
Robert James
Chairman

Date Feb. 4, 1974

STATE OF CALIFORNIA
The Resources Agency
DEPARTMENT OF WATER RESOURCES
Southern District

By Jack J. Coe
Jack J. Coe
District Engineer
Southern District
and Watermaster

Date Feb. 1, 1974

TABLE 18. APPORTIONMENT OF PARTIES' SHARE OF 1974-75 BUDGET

Party	Mutually Prescriptive Right, in acre-feet	Apportionment to be paid
San Fernando Basin		
Burbank, City of	17,760	$ 1,670.31
Forest Lawn Memorial Park Association	1,060	99.69
Glendale, City of	16,141	1,518.05
Lockheed Aircraft Corporation	310	29.16
Los Angeles, City of	82,310	7,741.17
Valhalla Memorial Park	240	22.57
Van de Kamp's Holland Dutch Bakers, Inc.	120	11.29
Verdugo Basin		
Crescenta Valley County Water District	1,988	186.97
Glendale, City of	2,327	218.85
Sylmar Basin		
Fidelity Federal Savings and Loan Association	527	49.56
Los Angeles, City of	2,440	229.48
San Fernando, City of	2,370	222.90
TOTALS	127,593	$ 12,000.00
Recapitulation for:		
Glendale, City of	18,468	$ 1,736.90
Los Angeles, City of	84,750	$ 7,970.65

APPENDIX A

RESTRICTED PUMPING OF
UPPER LOS ANGELES RIVER AREA PARTIES
SEPTEMBER 1973

AND

COPIES OF LEGAL DOCUMENTS

APPENDIX A
TABLE OF CONTENTS

RESTRICTED PUMPING OF UPPER LOS ANGELES RIVER AREA PARTIES SEPTEMBER 1973

Party [a]	Restricted Pumping, in acre-feet per year
SAN FERNANDO BASIN	
Bartholomaus, William O. and Ellen S. Dubois	15.00
Burbank, City of	13,649.00
Conrock Formerly Known as Consolidated Rock Products Company Successor of California Materials Company	0.00 [b]
Forest Lawn Memorial Park Association Includes: American Security and Fidelty Company Forest Lawn Cemetery Association Forest Lawn Company	814.00
Glendale, City of	12,405.00
Harper, Cecilia DeMille Successor of Estate of Cecil B. DeMille	0.00
Livingston-Graham, Incorporated Successor of Livingston Rock and Gravel Company	0.00 [b]
Lockheed Aircraft Corporation	239.00
Los Angeles, City of	63,257.00
McCabe, Celeste Louise	1.00
Mena, John and Barbara Successor of Neva Bartlett Holmgrin	0.00
Monteria Lake Association	0.00
Riverwood Ranch Mutual Water Company	0.00
Sears, Roebuck & Company	0.00 [b]
Southern Service Company, Limited	0.00
Sportsmen's Lodge, Incorporated Formerly known as Sportsmen's Lodge Banquet Corporation	0.00
Toluca Lake Property Owners' Association	23.00
U. S. Mortgage Successor of Wright, Marion J. and Alice M.	00.00
Valhalla Memorial Park Includes: Valhalla Mausoleum Park Valhalla Properties	184.00
Van de Kamp's Holland Dutch Bakers, Incorporated	93.00
Walt Disney Productions	00.00 [b]
SUBTOTALS (SAN FERNANDO BASIN)	90,680.00

RESTRICTED PUMPING OF UPPER LOS ANGELES RIVER AREA PARTIES SEPTEMBER 1973

(Continued)

Party [a]	Restricted Pumping, in acre-feet per year	
SYLMAR BASIN		
Brown, Charles T. Successor of Stella M. Brown	0.00	
Church of Jesus Christ of the Latter Day Saints Successor of Henry G. Stetson	0.00	
Fidelity Federal Savings and Loan Association Successor of Boise Cascade Building Company Successor of The Wellesley Company Successor of Maxine Duckworth and John E. Mullin	609.00	
Los Angeles, City of	2,818.00	
Moordigian, Kisag	46.00	
San Fernando, City of	2,737.00	
SUBTOTALS (SYLMAR BASIN)		6,210.00
VERDUGO BASIN		
Crescenta Valley County Water District	3,294.00	
Glendale, City of	3,856.00	
SUBTOTALS (VERDUGO BASIN)		7,150.00
TOTAL (ULARA)		104,040.00

[a] Parties that are not listed on this table have zero "Restricted Pumping."

[b] Party is allowed to extract ground water pursuant to Stipulated Judgment with City of Los Angeles.

WATER USE LICENSE AGREEMENT

ELLEN S. DuBOIS and WILLIAM O. BARTHOLOMAUS (hereinafter referred to as "Licensors") hereby grant to CITY OF BURBANK, a municipal corporation, (hereinafter referred to as "Licensee") a license to extract fifteen (15) acre-feet of water of Licensors' Restricted Pumping allocated to Licensors under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court, Case Number 650,079, entitled "The City of Los Angeles, plaintiff, vs. City of San Fernando, et al., defendants", during the period commencing October 1, 1972, and continuing to and including September 30, 1973.

Said License is granted subject to the following conditions:

1) Licensee shall exercise said rights and extract the same on behalf of Licensors during the period above specified and put the same to beneficial use, and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensors.

2) Licensee shall notify the watermaster that said pumping was done pursuant to this License and provide the watermaster with a copy of this License.

3) Licensee shall note, in any recording of water production for the period of this License, that said pumping was done pursuant to this License.

4) Licensors warrant that they have fifteen (15) acre-feet of Restricted Pumping and that they have not pumped and will not pump or permit or license any other person to pump any part of the fifteen (15) acre-feet granted by this License during the period of October 1, 1972, through September 30, 1973.

This License is entered into as of the 26th day of September, 1973.

LICENSORS:

Ellen S. DuBois
Ellen S. DuBois

William O. Bartholomaus by
Ellen S. DuBois, Attorney in fact
William O. Bartholomaus by
Ellen S. DuBois, Attorney in fact.

LICENSEE:

CITY OF BURBANK,
a municipal corporation,

By (S) JOSEPH N. BAKER
City Manager (by J.A.A.)*

*James A. Algie, Asst.
City Manager

RESOLUTION NO. 16,557

A RESOLUTION OF THE COUNCIL OF THE CITY OF BURBANK APPROVING A WATER USE LICENSE AGREEMENT WITH ELLEN S. DuBOIS, INDIVIDUALLY AND AS ATTORNEY IN FACT FOR WILLIAM O. BARTHOLOMAUS.

BE IT RESOLVED BY THE COUNCIL OF THE CITY OF BURBANK that the City Manager is authorized and directed to sign that certain Water Use License Agreement to extract fifteen (15) acre-feet of water allocated to Ellen S. DuBois and William O. Bartholomaus under and pursuant to a Judgment dated March 14, 1968, and entered in the Los Angeles Superior Court, Case No. 650,079, entitled "The City of Los Angeles, Plaintiff, vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1972 and continuing to and including September 30, 1973 at a price of $35.00 per acre-foot.

PASSED and ADOPTED this 25th day of September, 1973.

s/ Byron E. Cook
Byron E. Cook
Mayor of the City of Burbank

Attest:

s/ Evelyn L. Haley
Evelyn L. Haley, City Clerk

STATE OF CALIFORNIA)
COUNTY OF LOS ANGELES) SS.
CITY OF BURBANK)

I, Evelyn L. Haley, City Clerk of the City of Burbank, do hereby certify that the foregoing resolution was duly and regularly passed and adopted by the Council of the City of Burbank at its regular meeting held on the 25th of September, 1973, by the following vote:

AYES: Councilmen Gilbert, Rudell, Stefano and Cook

NOES: Councilmen None

ABSENT: Councilman Ayers.

s/ Evelyn L. Haley
Evelyn L. Haley, City Clerk

May 12, 1972

Mr. Steve Chaudet
Office of Public Affairs
Lockheed California Company
P. O. Box 551
Burbank, California 91505

Dear Mr. Chaudet:

Water Use License Agreement

The subject license agreement between the City of Burbank and Lockheed Aircraft Corporation expires on September 1, 1972. There is a provision for renewal of the agreement for a period of two years providing the licensor (Lockheed) is notified in writing, ninety days prior to the expiration of the agreement by the licensee (Burbank).

The City of Burbank desires to extend the agreement for a period of two years and would be interested in any additional water use available from Lockheed's restricted pumping rights.

Please consider this letter as the written notice of Burbank's intention to renew the Water Use License Agreement until September 30, 1974.

Very truly yours,

A. E. Capon

A. E. Capon
General Manager

AECwb

CONROCK

CONROCK CO.

3200 San Fernando Road / P.O. Box 2950 / Los Angeles, California 90051 / (213) 258-2777

February 6, 1973

Department of Water Resources
P. O. Box 6598
Los Angeles, Ca. 90055

Attention: Watermaster

Gentlemen:

In accordance with your request this is to advise that California Materials Company, formerly a wholly-owned subsidiary of CONROCK CO. was merged into CONROCK CO. effective 12/31/72.

Under California law relating to mergers, CONROCK CO. acquired all rights, assets and liabilities of California Materials Company on the effective date of the merger.

Sincerely,

G. H. Weber
Properties Manager

GHW/j

LOCKHEED-CALIFORNIA COMPANY

A DIVISION OF LOCKHEED AIRCRAFT CORPORATION

BURBANK, CALIFORNIA 91503

September 25, 1972

Mr. Alan E. Capon, General Manager
Public Service Department
Water, Light and Power
164 West Magnolia Blvd.
P. O. Box 631
Burbank, California 91503

Dear Mr. Capon:

This is to advise you that we have received notice of your desire to exercise the option in respect to the use of water rights for an additional two-year period. The option is recognized by Lockheed and as a consequence it will be in effect for the period through September 30, 1974.

Very truly yours,

LOCKHEED-CALIFORNIA COMPANY

K. M. Bent

K. M. Bent, Manager
Finance Department

KMB:jf

WATERMASTER SERVICE
Department of Water Resour
Post Office Box 6598
Los Angeles, CA 90055

Telephone Nos: 620-4119
620-4204

UPPER LOS ANGELES RIVER AREA (ULARA)
REDUCTION OF EXTRACTIONS BY CITY OF
LOS ANGELES
October 1, 19 72

I. ESTIMATED GROUND WATER PRODUCTION BY PARTIES TO STIPULATED JUDGMENTS

WATER YEAR 19 72 - 73

STIPULATED PARTIES	Extractions, in acre-feet: Prior water year, 1971 - 1972	Current water year,* 1972 - 1973
1. California Materials Company	277	250
2. Consolidated Rock Products Company	1451	1300
3. Livingston-Graham, Incorporated	520	450
4. Sears, Roebuck and Company	304	250
5. Walt Disney Productions	2125	1900
TOTAL	4678	4150

*Amounts greater or less than 10% of the amount extracted during the prior year shall be justified under remarks.

II. The completion and filing of this notice with the Watermaster fulfills the requirement of notification by the City of Los Angeles to the Watermaster pursuant to paragraph V. of the "Policies and Procedures".

III. Remarks:

GERARD A. WYSS
Assistant Chief Engineer
of Water Works

By ____________
(Designee)

Date November 15, 1972

Phone No. 481-6180

Forest Lawn Memorial-Parks and Mortuaries

GLENDALE HOLLYWOOD HILLS CYPRESS COVINA HILLS

Glendale, California 91209

Telephones
Los Angeles 254 1111
Glendale 241-4151
Cable Address: Forlawn, Glendale

Masters of Life Glendale

August 28, 1973

Jack J. Coe, District Engineer
849 South Broadway
Los Angeles,
California 90055

Dear Mr. Coe: Re: San Fernando Basin
Water Rights

For the year ending September 30, 1973, we have approximately 350 acre feet of unused water rights. We want to lease or sell these rights to the Glendale Department of Water and Power.

Glendale wishes to purchase these rights, but they cannot pump the above quantity of water by September 30, 1973, because one of their largest well pumps has failed and is presently being repaired. Glendale indicates that the pump will be repaired in the near future, so they will be able to fully utilize the water rights within a reasonable time after September 30, 1973.

Due to the above described circumstances, we request the Water Master to exercise his authority under Paragraph X 2(c) and grant us a thirty to sixty day extension of time in which to utilize our water rights for the year ending September 30, 1973.

Your courtesy and cooperation in this matter is greatly appreciated

Very truly yours,

FOREST LAWN COMPANY

By: James A. Arnerich
James A. Arnerich
Vice President and
General Counsel

DIRECTORS
FOREST LAWN COMPANY

THE COUNCIL OF ATLANTS
OF
MEMORIAL COURT OF HONOR

Nothing in Los Angeles gives me a finer thrill than Forest Lawn
Bruce Barton

September 4, 1973

Forest Lawn Memorial
Parks and Mortuaries
P. O. Box 1131
Glendale, CA 91209

Attention: Mr. James A. Arnerich
Vice President and General Counsel

Gentlemen:

With reference to your letter of August 28, 1973 requesting the Watermaster to grant an extension of time as authorized by the USGA Judgment, Paragraph X 2 (c), this is to confirm the telephone conference conversation of August 31, 1973 with your office and Mr. Pell of the City of Glendale, and Mr. G. V. Valenzuela, Deputy Watermaster of this office advising that the request will be granted.

The forthcoming lease from Forest Lawn to the City of Glendale for approximately 350 acre-feet of Restricted Pumping will be acknowledged together with the condition that the amount of the lease will be allowed to the City of Glendale as a carryover into the 1973-74 water year to November 30, 1973, in addition to their normal carryover.

Sincerely yours,

Mitchell L. Gould
Chief, Operations Branch
Southern District
and Deputy Watermaster

GValenzuela:bv
cc: Robert Jones

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to CITY OF GLENDALE (Licensee): a license to extract 350 acre-feet of Licensor's Restricted Pumping allocated to Licensor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs City of San Fernando, et al., Defendants", during the period commencing as of the date hereof, and continuing to and including November 30, 1973, as stipulated in the attached letter from the Watermaster's office.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 350 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 350 acre-feet during period from date hereof through November 30, 1973.

DATED: September 18, 1973

FOREST LAWN COMPANY

CITY OF GLENDALE

By James A. Arnerich

By Frederick Bixby

Title: Vice President

Title: CITY MANAGER

Approved - Glendale
Mitchell - DM
Sept 25, 73

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (licensor) grants to SOUTHERN SERVICE COMPANY, LTD. (Licensee): a license to extract 75 acre-feet of Licensor's Restricted Pumping allocated to Licensor (predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1972, and continuing to and including September 30, 1973.

Said license is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 75 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 75 acre-feet during period of October 1, 1972 through September 30, 1973.

DATED: August 28, 1973.

FOREST LAWN COMPANY

By: James A. Arnerich

TITLE: Vice President

SOUTHERN SERVICE COMPANY, LTD.

By: [signature]

TITLE: ASSISTANT

WATER LICENSE AGREEMENT

FOREST LAWN COMPANY (Licensor) grants to SPORTSMEN'S LODGE, INC. (Licensee):

a license to extract 10 acre-feet of Licensor's Restricted Pumping allocated to Licensor (predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 1972, and continuing to and including September 30, 1973.

Said license is granted subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of Forest Lawn Company during the period above specified and put the same to beneficial use and Licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of Licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this License and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this License.

FOREST LAWN COMPANY warrants that it has 10 acre-feet of Restricted Pumping and that it has not pumped and will not pump or permit or license any other person to pump any part of said 10 acre-feet during period of October 1, 1972 through September 30, 1973.

DATED: August 28, 1973.

FOREST LAWN COMPANY

By: _____

TITLE: Vice President

SPORTSMEN'S LODGE, INC.

By: _____

TITLE: President

SPORTSMEN'S LODGE

Sportsmen's Lodge

LEONARD MARINO

June 29, 1972

Mr. Karl Bent
Lockheed Aircraft Corp.
P.O. Box 551
Burbank, California

Dear Mr. Bent:

This letter is our written request to renew our water rights purchase with Lockheed. This confirmation, as per our written agreement from the preceding year.

Thank you for reminding me. Looking forward to seeing you soon.

Sincerely,

Len Harley

JUL 3 1972

Valhalla Memorial Park

August 16, 1973

State Water Resources Control Board
107 South Broadway
Los Angeles, California 90012

Attention: Division of Water Rights

Gentlemen:

Enclosed is a copy of our letter to Lockheed-California Company, dated August 10, 1973, which is self-explantory.

Enclosed also is a copy of the invoice, dated September 27, 1972, to Valhalla from Lockheed showing that we paid for the 20 acre/feet of water for the fiscal year October 1, 1972 thru September 30, 1973.

Please have our allotment of water changed to reflect this purchase of 20 acre/feet of water for the fiscal years ending September 30, 1973 and September 30, 1974.

Thank you for your cooperation in this instance.

Very truly yours,

VALHALLA MEMORIAL PARK

E. L. Allbritton

E. L. Allbritton
Vice President & General Manager

August 10, 1973

Lockheed-California Co.
Burbank, California

Attention: Mr. Robert F. Troxler, Jr.

Dear Mr. Troxler:

Enclosed is our check #2038 in the amount of $1,000.00 representing payment to you for 20 acre/feet of water to be used by us during the fiscal year October 1, 1973 thru September 30, 1974.

Please sign the enclosed copy of this letter and return it to me at your earliest convenience so that I may present it to the Department of Water Resources for proper credit to our water allotment.

Incidentally, we never got credit from the Department of Water Resources for our purchase of 20 acre/feet of water from you for the fiscal year October 1, 1972 thru September 30, 1973. By signing the copy of this letter, you are also acknowledging receipt of payment for that 20 acre/feet so we can obtain proper credit on our account from the Department of Water Resources.

Since we are in such dire need of this water, anything you can do to help us get this allotment transferred to our account will be greatly appreciated.

Very truly yours,

VALHALLA MEMORIAL PARK

E. L. Allbritton

E. L. Allbritton
Vice President & General Manager

Lockheed-California Co.

Robert F. Troxler, Jr.
8-13-73

SUGGESTED SAMPLES OF DOCUMENTS FOR TRANSFERRING WATER RIGHTS

YEARLY ASSIGNMENTS

WATER USE LICENSE AGREEMENT

JOHN DOE hereby grants to BILL SMITH: a license to extract _____ acre-feet of licensor's Restricted Pumping allocated to licensor (or predeceasors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants", during the period commencing October 1, 19__ and continuing to and including September 30, 19__.

Said License is granted, subject to the following conditions:

(1) Licensee shall exercise said right and extract the same on behalf of JOHN DOE during the period above specified and put the same to beneficial use and licensee shall not by the exercise hereunder of said right acquire any right to extract water independent of the rights of licensor.

(2) Licensee shall notify the Watermaster that said pumping was done pursuant to this license and provide the Watermaster with a copy of the document.

(3) Licensee shall note, in any recording of water production for the period of agreement, that said pumping was done pursuant to this license.

JOHN DOE warrants that he has _____ acre-feet of Restricted Pumping and that he has not pumped and will not pump or permit or license any other person to pump any part of said _____ acre-feet during period of October 1, 19__ through September 30, 19__.

DATED: _____

JOHN DOE

By _____

Title _____

(NOTARY)

BILL SMITH

By _____

Title _____

PERMANENT TRANSFERS

DEED OF WATER RIGHTS

For a valuable consideration, BILL SMITH hereby sells and transfers to the JOHN DOE COMPANY:

The Right to extract _____ acre-feet of grantor's Mutually Prescriptive Right (_____ acre-feet of Restricted Pumping) allocated to grantor (or predecessors in interest) under and pursuant to Judgment dated March 14, 1968, and entered in Los Angeles Superior Court Case No. 650,079 entitled "The City of Los Angeles, Plaintiff vs. City of San Fernando, et al., Defendants".

DATED: _____

JOHN DOE COMPANY

by _____

Title _____

(NOTARY)

BILL SMITH

By _____

Title _____

APPENDIX B

GROUND WATER EXTRACTIONS

TABLE B-1. GROUND WATER EXTRACTIONS
In acre-feet

STATE WELL NUMBER	OWNER'S DESIGNATION	PRODUCTION 1972 OCT	1972 NOV	1972 DEC	1973 JAN	1973 FEB	1973 MAR	1973 APR	1973 MAY	1973 JUNE	1973 JULY	1973 AUG	1973 SEPT	TOTAL
SAN FERNANDO BASIN														
BURBANK, CITY OF														
1N/14W-09A03S	14A	306.25	343.51	5.06	0	0	0	0	0	0	0	37.93	320.04	1012.79
1N/14W-09H04S	17	115.95	0	0	0	15.38	12.95	0	49.84	201.41	204.21	202.46	192.96	995.36
1N/14W-09G02S	12	137.11	0	0	0	0	137.06	5.90	180.20	75.81	128.09	223.76	214.19	1102.12
1N/14W-09G03S	9	0	0	0	0	34.36	120.62	114.19	43.07	56.40	111.98	111.85	107.22	701.69
1N/14W-09H01S	10	41.66	0	30.37	135.33	183.81	14.36	13.88	139.98	39.46	148.22	200.49	201.23	1128.79
1N/14W-09H04S	11A	104.52	0	0	0	43.47	0	0	99.98	230.90	196.54	236.50	223.01	1134.92
1N/14W-09K02S	13A	239.85	82.11	0	97.92	20.84	17.22	231.37	176.79	176.03	238.79	239.72	226.08	1706.72
1N/14W-09L04S	18	228.39	3.35	0	0	17.98	14.99	0	221.96	216.59	219.86	218.48	210.33	1351.93
1N/14W-09M01S	6A	109.60	203.26	313.11	305.42	216.94	71.30	268.87	50.64	182.81	236.85	297.04	273.90	2529.74
1N/14W-11D01S	7	87.07*	95.56*	104.80*	104.14*	84.05*	91.66*	91.14*	42.76*	18.78*	1.29*	93.96*	97.60*	914.59
1N/14W-14H08S	15	108.55	117.82	127.81	126.94	102.89	114.54	115.06	52.99	24.14	1.71	123.28	127.63	1141.36
TOTALS		1478.95	845.41	581.15	769.75	699.72	594.70	842.41	1018.21	1222.53	1489.54	1985.45	2193.99	13720.01
CONROCK (FORMERLY CALIFORNIA MATERIAL)														
2N/14W-30A01S	4926-	21.82	22.75	16.27	0	0	0	0	0	0	0	0	0	60.84
CONROCK CO.														
2N/14W-30A01S	4926	0	0	0	18.64	14.06	18.54	17.01	32.82	21.16	19.98	22.56	17.13	181.90
2N/14W-30A03S	2	43.42	57.41	50.03	56.23	51.83	55.85	68.69	82.10	80.45	82.85	85.79	84.93	819.78
2N/14W-30A04S	3	47.60	46.03*	46.03*	52.17	34.67	50.74	64.49	82.53	83.99	88.84	89.76	32.68	719.53
TOTALS		111.02	103.44	96.06	127.04	100.56	125.13	150.19	197.45	185.60	191.67	198.11	134.74	1721.21
FOREST LAWN CEMETERY ASSN ET AL														
1N/13W-33N01S	2	0	0	0	0*	0*	0	0	0	10.31	19.75	22.03	16.57	68.66
1N/13W-33N03S	4	20.58	14.75	7.33	4.65	8.53	6.33	33.22	41.71	38.88	38.30	35.55	26.80	276.63
1S/13W-04R01S	7	6.00	2.51	1.98	.99	.04	0	9.15	13.76	12.64	1.25	0	0	48.32
TOTALS		26.58	17.26	9.31	5.64	8.57	6.33	42.37	55.47	61.83	59.30	57.58	43.37	393.61
GLENDALE, CITY OF														
	GVFNT	1125.36	569.89	813.47	824.05	560.38	608.56	604.11	607.33	628.20	1610.86	1354.61	1269.29	10180.11
1N/13W-19J01S	STPT1	10.12	.35	2.26	1.22	.77	1.28	.43	5.66	5.93	2.61	1.43	1.52	33.58
1N/13W-19J04S	STPT2	85.95	116.83	125.89	124.35	106.20	126.04*	109.07	98.59	127.13	142.90	139.63	120.75	1423.33
TOTALS		1221.43	687.07	741.62	751.62	667.35	735.48	715.61	711.58	761.26	1756.37	1495.67	1391.56	11637.02
HARPER, CECILIA DE MILLE														
2N/14W-05A02S	CEDEG	1.20*	1.73*	1.57*	.86*	.04*	.08*	.07*	.37*	.27*	.27*	.94*	.21*	7.83
LIVINGSTON-GRAHAM, INC.														
2N/14W-19D01S	SNVAL	57.18	41.80	47.22	54.92	38.93	55.45	56.89	67.97	61.50	62.18	64.91	54.42	663.17
LOS ANGELES, CITY OF (RESEDA) **														
1N/16W-03D03S	R-2	16.14	21.40	41.51	14.88	0	0	0	0	0	0	10.08	67.72	171.73
2N/16W-27F02S	R-8	12.83	16.71	36.89	13.22	0	0	0	0	0	0	9.80	52.36	141.81
2N/16W-27P02S	R-6	6.24	7.97	18.09	6.57	0	0	0	0	0	0	4.52	23.05	66.44
2N/16W-34G02S	R-9	5.76	5.97	14.13	4.89	0	0	0	0	0	0	3.28	15.11	49.34
2N/16W-34K02S	R-5	7.32	8.45	19.05	6.63	0	0	0	0	0	0	5.62	25.41	72.48
TOTALS		48.29	60.50	129.87	46.19	0	0	0	0	0	0	33.30	183.65	501.80
LOS ANGELES, CITY OF														
1N/13W-19 S	CS-CM	0	0	0	0	275.48	478.19	590.91	587.35	391.18	411.85	400.60	348.48	3484.04
1N/14W-05N01S	NM-18	0	0	.21	0	0	0	0	0	0	0	95.82	37.12	133.15
1N/14W-05P01S	NM-19	0	0	.29	0	0	0	0	0	0	0	104.94	47.96	153.13
1N/14W-05P02S	NM-17	0	0	.18	0	0	0	0	0	0	0	96.74	44.49	141.41
1N/14W-06K01S	NM-39	33.86	0	.21	0	0	0	0	0	0	0	321.12	0	355.19
1N/14W-06K02S	NM-40	183.47	0	.27	0	0	0	0	0	0	0	0	156.52	340.22
1N/14W-06K03S	NM-41	110.90	27.46	4.04	0	0	0	0	313.22	0	0	0	0	455.62
1N/14W-06K04S	NM-42	31.84	0	190.61	208.03	0	0	397.34	121.12	0	0	0	0	948.94
1N/14W-06L01S	NM-24	0	0	0	0	0	0	351.49	374.66	12.85	0	0	0	738.80
1N/14W-06N01S	NM-2	105.21	.21	0	0	0	0	0	0	0	198.58	42.91	0	346.91
1N/14W-06N02S	NM-30	77.71	13.29	0	0	0	0	0	0	0	213.96	46.10	0	351.06
1N/14W-06P01S	NM-5	0	.07	0	0	0	0	0	0	71.85	116.85	0	0	188.77
1N/14W-06P02S	NM-31	0	.18	0	0	0	0	0	0	351.47	204.32	0	0	555.97
1N/14W-06Q01S	NM-13	0	.14	0	0	0	0	0	0	0	96.42	110.51	0	207.07
1N/14W-06Q03S	NM-14	0	28.15	.09	0	0	0	0	0	0	0	160.65	40.59	229.48
1N/14W-06Q05S	NM-29	0	0	.28	0	0	0	0	0	0	157.02	175.85	0	332.35
1N/14W-06Q07S	NM-38	0	0	0	0	0	0	0	.41	.55	222.91	161.52	0	385.39
1N/14W-06R01S	NM-11	0	.14	0	0	0	0	0	0	76.22	232.55	117.15	0	426.06
1N/14W-06W05S	NM-27	0	0	.05	0	0	0	0	0	0	0	146.85	20.80	167.70
1N/14W-06R07S	NM-28	0	.18	0	0	0	0	0	37.85	386.43	378.56	62.24	0	865.06
1N/14W-07A01S	W-1	9.27	0	0	9.32	0	0	0	32.60	320.39	318.64	10.47	0	700.89
1N/14W-07J01S	E-10	0	0	0	0	0	0	43.27	244.03	228.19	227.27	37.08	0	749.84

TABLE B–I. GROUND WATER EXTRACTIONS (Continued)
In acre-feet

STATE WELL NUMBER	OWNERS DESIG-NATION	PRODUCTION 1972 OCT	NOV	DEC	1973 JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	TOTAL
LOS ANGELES, CITY OF (CONTINUED)														
1N/14W-07J01S	F-6	0	0	0	0	0	0	0	148.46	226.35	228.88	214.94	0	838.63
1N/14W-08A01S	NH-21	0	0	.16	0	0	0	266.87	80.37	73.00	104.87	0	.69	525.96
1N/14W-08A02S	NH-20	12.35	0	.16	0	0	0	0	0	207.53	98.90	0	0	318.94
1N/14W-08A03S	NH-35	0	0	.11	0	0	.41	0	162.42	50.57	0	0	0	213.51
1N/14W-08B01S	NH-19	0	0	.21	0	0	0	0	0	118.00	132.60	0	0	250.81
1N/14W-08D01S	W-2	11.87	0	.21	0	0	0	0	33.29	338.61	289.99	0	0	673.97
1N/14W-08E01S	W-1	9.64	0	.14	0	0	0	0	37.19	283.24	294.31	9.99	0	634.51
1N/14W-08E01S	W-4	26.74	0	177.57	234.04	0	0	0	0	0	0	0	215.56	653.91
1N/14W-08J01S	F-5	0	0	.18	0	0	139.60	315.66	318.87	202.50	0	0	0	976.81
1N/14W-08J03S	F-3	7.30	0	0	0	0	146.72	257.35	75.87	0	0	0	0	487.24
1N/14W-08J04S	F-1	8.88	0	.28	0	0	0	72.04	240.30	259.64	260.22	221.21	209.37	1311.94
1N/14W-08L01S	W-5	12.53	0	152.09	191.35	0	0	0	33.06	334.37	285.84	0	178.35	1187.59
1N/14W-08L02S	F-4	0	0	.11	0	0	0	0	0	0	0	179.73	0	179.84
1N/14W-08M01S	W-7	43.32	0	198.65	85.17	0	120.75	281.45	278.24	260.79	255.28	49.54	81.38	1654.57
1N/14W-15N01S	V-2	224.95	201.52	230.95	202.09	0	133.49	59.23	222.27	226.58	224.98	217.17	199.49	2142.72
1N/14W-15P01S	V-4	221.24	108.13	.09	21.26	38.73	211.04	233.70	236.23	220.62	218.32	214.88	204.32	1928.56
1N/14W-16A01S	W-9	54.11	0	93.37	49.72	0	64.37	130.62	132.23	121.67	67.72	0	0	713.81
1N/14W-16F01S	W-10	0	0	.09	0	0	0	119.93	5.62	0	0	0	73.90	199.54
1N/14W-17A01S	W-8	30.35	0	210.40	89.62	0	135.81	299.36	257.83	0	255.97	245.89	208.43	1733.66
1N/14W-21H01S	V-13	35.15	1.72	.05	0	0	0	0	0	0	0	0	0	36.92
1N/14W-21C01S	V-16	89.10	61.91	116.62	114.33	20.22	85.15	176.26	118.23	104.45	99.63	80.56	92.75	1109.21
1N/14W-21G01S	V-24	169.58	110.35	146.79	197.66	34.04	195.29	213.96	220.39	212.81	218.55	217.63	210.06	2147.11
1N/14W-21H01S	V-22	83.93	100.02	111.34	101.93	17.56	65.31	49.56	0	0	0	0	0	529.65
1N/14W-22H01S	V-11	253.79	7.55	.18	0	0	0	0	0	0	0	0	0	261.52
1N/14W-22C01S	V-1	139.65	163.06	181.13	174.93	27.50	154.32	172.64	147.81	152.43	149.91	148.99	136.36	1748.73
1N/14W-24J03S	H-26	166.32	0	0	0	195.94	268.14	258.61	242.77	226.35	226.35	208.91	186.75	1980.14
1N/14W-24D04S	H-27	209.94	0	0	0	117.54	0	69.33	227.19	212.24	213.84	202.82	188.25	1441.35
1N/14W-24D05S	H-28	238.64	384.76	399.79	404.38	67.84	248.97	410.93	398.96	376.54	381.61	378.10	363.75	4046.27
1N/14W-24D06S	H-29	239.55	385.90	400.60	396.69	370.98	177.00	0	410.70	408.29	414.26	398.65	376.38	3979.00
1N/14W-24F06S	H-25	202.94	210.97	227.16	235.42	104.82	252.61	241.97	228.31	200.87	208.10	186.07	171.72	2474.76
1N/14W-24H03S	CS-52	137.90	86.91	30.96	28.36	12.17	36.32	120.24	177.66	179.36	177.33	155.72	108.33	1251.26
1N/15W-01K01S	NH-15	0	.07	0	0	.69	0	0	0	58.56	50.67	0	0	109.97
1N/15W-01K02S	NH-34	0	.16	0	0	.41	0	0	0	173.78	0	66.00	0	240.35
1N/15W-01K04S	NH-36	0	.21	0	0	1.15	0	0	426.33	47.98	0	0	0	475.67
1N/15W-01K05S	NH-37	0	.21	0	0	1.10	0	117.08	30.39	0	101.79	0	149.84	400.41
1N/15W-01P04S	NH-25	0	0	.18	0	0	0	0	0	353.99	407.94	59.92	0	822.03
1N/15W-01Q02S	NH-22	153.44	.25	0	0	0	0	0	0	0	0	190.20	0	343.89
1N/15W-01Q03S	NH-23	84.83	.19	0	0	0	0	0	0	0	0	214.23	0	299.24
1N/15W-01Q04S	NH-26	0	.39	0	0	0	0	0	0	0	0	215.59	0	215.98
1N/15W-02P01S	NH-7	76.68	.11	0	0	0	0	59.46	68.69	7.44	0	0	0	212.38
1N/15W-02Q02S	NH-32	0	.16	0	0	0	0	0	230.12	33.95	0	0	0	264.23
1N/15W-02R01S	NH-4	0	.11	0	0	0	0	0	0	0	0	105.10	14.65	119.95
1N/15W-02R02S	NH-33	0	.16	0	0	0	0	0	0	0	0	0	114.58	114.74
2N/14W-12C01S	TGPLT	185.70	148.76	111.55	76.97	88.98	99.17	107.81	109.04	98.07	62.56	108.26	116.85	1293.72
2N/14W-13E04S	ETHL2	0	0	.02	0	0	0	0	0	0	0	0	0	.02
2N/15W-25L01S	WICKS	0	0	0	0	0	0	0	.77	.45	.57	.51	.40	2.70
1S/13W-04K01S	P-7	0	0	0	0	0	0	.25	2.50	92.98	151.17	145.78	139.81	532.49
1S/13W-04L02S	P-4	0	0	0	0	0	0	.41	12.48	144.07	257.46	245.06	230.26	929.74
1S/13W-04L03S	P-6	0	0	0	0	0	0	.30	139.62	145.17	235.90	214.19	77.36	822.54
1S/13W-04L04S	P-5	0	0	0	0	0	0	.46	1.63	144.15	223.83	211.43	211.09	792.54
TOTALS		3682.68	2043.39	2987.25	2821.27	1379.15	3012.46	5388.49	7179.08	8174.31	9050.28	7197.13	4956.64	57872.11
MENA, JOHN AND BARBARA														
2N/14W-11N01S	4973J	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.08*	.96
RIVERWOOD RANCH MUTUAL WATER COMPANY														
2N/14W-11A01S	4982	.72	1.84	1.83	1.90	1.86	1.34	1.92	2.51	3.18	5.30	3.85	2.33	28.58
SEARS ROEBUCK AND COMPANY														
1N/13W-20H01S	3945-	31.73	19.86	15.93	6.14	19.06	16.17	19.43	32.47	46.71	33.60	42.38	36.70	320.18
SOUTHERN SERVICE COMPANY														
1N/13W-20F01S	MFTR1	1.96	2.24	2.02	2.03	2.03	2.08	2.08	2.06	1.84	1.77	1.80	1.64	23.55
1N/13W-20F01S	MFTR2	1.98	2.28	2.05	2.12	1.92	2.09	2.03	2.05	1.84	1.77	1.79	1.34	23.26
1N/13W-20F01S	MFTW3	2.10	2.31	2.06	2.12	2.00	2.05	1.97	2.07	1.69	1.82	2.05	1.52	23.76
TOTALS		6.04	6.83	6.13	6.27	5.95	6.22	6.08	6.18	5.37	5.36	5.64	4.50	70.57
SPORTSMENS LODGE, INCORPORATED														
1N/15W-25D01S	1	.63	.63	.37	.63*	.63*	.63*	.63*	.63*	.63*	.63*	.63*	.63*	7.30
TOLUCA LAKE PROPERTY OWNERS ASSN														
1N/14W-28H01S	3845F	0	0	2.47	1.30	.30	.03	2.45	2.95	4.02	4.29	3.73	3.05	24.59

TABLE B-I. GROUND WATER EXTRACTIONS (Continued)
In acre-feet

STATE WELL NUMBER	OWNER'S DESIG-NATION	PRODUCTION 1972 OCT	1972 NOV	1972 DEC	1973 JAN	1973 FEB	1973 MAR	1973 APR	1973 MAY	1973 JUNE	1973 JULY	1973 AUG	1973 SEPT	TOTAL
VALHALLA MEMORIAL PARK														
1N/14W-04N03S	4	11.26	3.92	0	.13	0	0	14.55	40.12	37.20	40.78	28.35	20.80	197.11
1N/14W-09D06S	2	0	.38	0	0	0	0	0	0	0	0	0	0	.38
TOTALS		11.26	4.30	0	.13	0	0	14.55	40.12	37.20	40.78	28.35	20.80	197.49
VAN DE KAMPS HOLLAND DUTCH BAKERS, INC														
1S/13W-04G01S	1	.34	.02	.06	4.04	2.28	.01	.02	.06	.29	.03	.02	.02	7.19
WALT DISNEY PRODUCTIONS														
1N/14W-23E01S	EAST	6.24	156.25	148.30	100.48	.02	105.17	6.29	165.50	8.69	89.92	32.23	141.46	960.55
1N/14W-23E02S	WEST	162.56	41.20	2.77	86.15	136.91	36.34	126.60	10.24	167.08	93.92	181.60	31.88	1077.25
TOTALS		168.80	197.45	151.07	186.63	136.93	141.51	132.89	175.74	175.77	183.84	213.83	173.34	2037.80
WESTERN OIL AND GAS ASSOCIATION (NONPARTY)														
	COX	12.31	10.30	4.25	2.89	4.27	3.47	1.94	4.33	2.28	6.50	3.86*	12.97*	69.35
	NEWMAN	2.88	7.95	13.55	15.70	19.36	17.00	20.35	3.85	7.97	3.85	1.42	29.27	143.15
	SAN F	6.37*	5.88*	8.22*	6.51*	7.29*	8.22*	6.39*	4.27*	2.69*	.94*	2.32*	4.34*	63.44
EL/LS	F-L	17.29*	23.24*	21.47*	14.94*	7.47*	32.71*	33.05*	10.41*	21.54*	12.66*	13.40*	10.32*	238.50
1S/13W-04C S	SF4	3.50	0	0	0	0	0	0	0	0	0	0	0	3.50
1S/13W-04C02S	SPACE	5.40	0	0	0	0	0	0	0	0	0	0	0	5.40
TOTALS		47.75	47.37	47.49	40.04	38.39	61.40	61.73	42.86	34.48	23.95	20.98	56.90	523.34
SUBTOTALS		6914.50		4835.75		3099.82		7435.61		10775.03		11352.58		
SAN FERNANDO BASIN			4102.13		4824.45		4757.42		9533.73		12907.47		9256.93	89795.42

SYLMAR BASIN

BROWN, CHARLES T														
3N/15W-34K03S	1	.69*	.59*	.28*	.31*	0	0	0	1.37*	1.33*	.79*	1.12*	1.56*	8.00
CHURCH OF JESUS CHRIST OF L D SAINTS														
3N/15W-20R01S	1	21.04	4.80	0	0	0	0	0	15.99	9.89	0	0	0	51.72
FIDELITY FEDERAL SAVINGS & LOAN ASSN.														
3N/15W-25G01S	3	.88*	.68*	.48*	.15*	.04*	.01*	.11*	.03*	.13*	.08*	.05*	.04*	2.48
LOS ANGELES, CITY OF														
2N/15W-04 S MISSN		0	0	0	0	178.79	423.97	388.52	381.11	347.54	372.84	368.80	348.35	2809.92
METROPOLITAN WATER DISTRICT OF SO CAL (NONPARTY)														
3N/15W-16E S TUNNL		23.97*	25.07*	27.95*	27.95*	28.09*	32.88*	36.19*	37.13*	33.54*	31.10*	30.96*	30.76*	365.59
SAN FERNANDO, CITY OF														
3N/15W-27Q01S	7A	31.45	35.91	98.31	81.33	77.82	74.18	84.05	85.91	93.04	94.16	84.30	84.99	925.45
3N/15W-34A01S	4	42.54	39.36	54.87	44.91	36.73	30.62	39.83	46.71	40.74	51.29	72.10	63.74	563.44
3N/15W-34C01S	3	174.04	146.22	67.33	79.32	53.27	91.86	85.65	180.70	143.62	167.30	187.65	138.26	1515.22
TOTALS		248.03	221.49	220.51	205.56	167.82	196.66	209.53	313.32	277.40	312.75	344.05	286.99	3004.11
SUBTOTALS		294.61		249.22		374.74		434.35		669.83		744.98		
SYLMAR BASIN			252.43		233.97		653.52		748.91		717.56		667.70	6241.82

TABLE B-1. GROUND WATER EXTRACTIONS (Continued)
In acre-feet

STATE WELL NUMBER	OWNERS DESIG-NATION	PRODUCTION 1972 OCT	1972 NOV	1972 DEC	1973 JAN	1973 FEB	1973 MAR	1973 APR	1973 MAY	1973 JUNE	1973 JULY	1973 AUG	1973 SEPT	TOTAL
VERDUGO BASIN														
CRESCENTA VALLEY COUNTY WATER DIST														
1V/2RS-1ON	PICK	8.33	8.39	8.57	7.77	7.49	8.06	7.93	7.79	7.71	6.87	13.33	14.52	106.76
1V/2RS-1ON	DUNS	1.74•	1.79•	2.04•	1.94•	1.17•	0	3.34•	3.58•	2.78•	2.36•	2.19•	2.20•	25.13
1N/13W-03D05S	8	6.90	6.41	4.66	5.29	0	0	27.94	29.83	37.96	8.56	29.10	29.43	186.08
2N/13W-2AN01S	9	0	0	0	0	4.97	0	0	0	0	0	2.30	0	7.27
2N/13W-29F02S	2	.07	.06	1.59•	.83	0	0	2.15•	0	0	0	0	0	4.70
2N/13W-29K01S	4	14.35	17.44	16.96•	3.27	0	0	15.11	18.25	17.38	17.78	17.54	16.87	154.95
2N/13W-33C01S	7	34.65	22.91	17.98	6.07	26.11	42.85	36.70	32.27	35.17	40.00	39.33	39.50	373.54
2N/13W-33C03S	1	35.53	31.24	39.26	31.77	29.15	42.43	35.99	44.53	41.92	41.49	40.33	40.98	454.62
2N/13W-33C06S	5	51.61	29.97	32.04	19.13	41.94	59.15	63.71	74.94	61.21	51.24	52.59	54.18	591.71
2N/13W-33G01S	11	39.44	38.85	19.30	2.32	4.11	21.35	29.47	29.65	34.92	32.55	29.70	26.88	308.54
2N/13W-33R01S	14	17.25	0	0	0	11.95	14.41	31.38	29.62	35.29	39.01	32.34	29.22	240.47
2N/13W-33R03S	6	0	0	0	0	0	0	0	0	8.48	15.53	0	0	24.01
2N/13W-33R05S	10	64.18	0	0	0	20.88	23.13	46.56	53.56	41.39	56.86	59.47	44.26	410.27
2N/13W-33R06S	12	18.60	93.12	72.12	70.54	0	0	23.84	59.81	47.81	10.32	0	11.82	407.78
TOTALS		292.45	250.18	214.52	148.93	147.77	211.38	324.12	383.83	372.02	322.55	318.22	309.86	3295.83
GLENDALE, CITY OF														
1N/13W-10F S	GL3-4	161.14	154.34	157.42	154.71	138.41	150.31	147.32	149.32	143.86	144.90	141.69	140.79	1786.21
1N/13W-15L01S	VPCKP	106.36	98.39	101.20	100.73	96.21	107.72	88.14	100.84	92.68	97.78	93.80	94.32	1178.17
TOTALS		267.50	252.73	258.62	255.44	234.62	258.03	235.46	250.16	236.54	244.68	235.49	235.11	2964.38
SUBTOTALS VERDUGO BASIN		559.95	502.91	473.14	404.37	382.39	469.41	559.58	633.99	608.56	567.23	553.71	544.97	6260.21
GRAND TOTALS ULARA		7769.06	4857.47	5558.11	5462.79	3856.95	5880.35	8629.54	10916.63	12053.42	14192.26	12651.27	10469.60	102297.45•••

• ESTIMATED

•• EXTRACTIONS NOT CHARGEABLE AGAINST CITY OF LOS ANGELES WATER RIGHT ENTITLEMENT

••• INCLUDES EXTRACTIONS BY NONPARTIES AND CITY OF LOS ANGELES FROM RESEDA WELLS.

APPENDIX C

MEAN DAILY DISCHARGE
AT
KEY SURFACE RUNOFF
GAGING STATIONS

MEAN DAILY DISCHARGE OF LOS ANGELES RIVER ABOVE ARROYO SECO
In second feet

Station 57C-R

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	8.7	19.4	18.4	13.5	21.0	53.0	32.0	31.0	30.0	27.0	30.0	9.8
2	9.8	22.0	25.0	14.9	16.9	34.0	34.0	21.0	23.0	28.0	26.0	8.7
3	13.5	19.4	14.2	17.5	1,100.0	33.0	42.0	20.0	19.4	34.0	26.0	8.2
4	14.2	19.4	1,590.0	15.6	741.0	46.0	39.0	20.0	19.4	32.0	25.0	11.6
5	13.5	49.0	63.0	13.5	255.0	21.0	39.0	22.0	21.0	32.0	19.4	14.9
6	12.8	30.0	38.0	19.4	2,140.0	379.0	42.0	18.4	21.0	38.0	18.4	8.7
7	12.8	17.5	568.0	15.6	2,560.0	225.0	36.0	18.4	20.0	34.0	21.0	10.4
8	10.4	14.2	199.0	19.4	91.0	1,360.0	32.0	17.5	32.0	26.0	16.5	9.2
9	11.0	12.8	35.0	416.0	39.0	100.0	18.4	17.5	19.4	30.0	17.5	8.7
10	12.2	21.0	18.4	180.0	2,310.0	46.0	27.0	18.4	14.9	39.0	18.4	8.7
11	10.4	1,200.0	12.2	26.0	9,190.0	895.0	24.0	18.4	17.5	33.0	16.5	9.2
12	11.5	42.0	16.5	17.5	1,170.0	403.0	24.0	20.0	17.5	31.0	13.5	14.9
13	12.2	24.0	14.2	15.6	2,300.0	114.0	21.0	21.0	19.4	31.0	20.0	6.7
14	11.6	3,450.0	12.8	11.6	385.0	70.0	19.4	14.9	18.4	26.0	21.0	8.7
15	14.9	99.0	11.0	11.6	144.0	62.0	15.6	14.9	13.5	24.0	15.6	9.8
16	26.0	2,100.0	10.4	3,300.0	86.0	28.0	15.6	18.4	18.4	27.0	12.8	11.6
17	18.4	689.0	12.2	352.0	77.0	28.0	20.0	27.0	16.5	33.0	9.2	8.7
18	25.0	36.0	14.2	3,760.0	50.0	28.0	21.0	23.0	19.4	32.0	14.2	12.8
19	324.0	22.0	14.2	397.0	43.0	34.0	17.5	23.0	24.0	28.0	17.5	14.2
20	102.0	15.6	13.5	46.0	33.0	2,020.0	11.6	28.0	25.0	27.0	26.0	12.5
21	20.0	15.6	14.2	25.0	30.0	439.0	14.9	36.0	27.0	23.0	19.4	11.5
22	12.2	12.2	31.0	20.0	31.0	332.0	12.8	58.0	32.0	19.4	18.4	19.4
23	13.5	10.4	14.2	16.5	31.0	35.0	14.2	47.0	31.0	23.0	16.5	25.0
24	14.2	10.4	13.5	16.5	28.0	45.0	19.4	46.0	25.0	25.0	21.0	30.0
25	13.5	11.0	11.0	15.6	31.0	45.0	19.4	53.0	27.0	25.0	18.4	14.2
26	12.8	13.5	11.6	18.4	24.0	40.0	21.0	45.0	33.0	27.0	15.6	15.6
27	17.5	12.8	15.6	14.9	1,660.0	30.0	20.0	33.0	33.0	30.0	17.5	11.6
28	14.9	14.2	17.5	12.8	1,280.0	28.0	16.5	28.0	22.0	27.0	26.0	14.9
29	14.9	14.2	20.0	11.0	--	21.0	16.5	33.0	30.0	24.0	13.5	94.0
30	14.2	17.5	11.0	163.0	--	21.0	16.5	28.0	30.0	30.0	13.5	92.0
31	18.4	--	13.5	24.0	--	25.0	--	31.0	--	33.0	16.5	--
Total	843.0	8,034.1	2,873.3	9,009.0	25,464.9	7,040.0	702.3	850.8	699.7	894.4	580.8	466.0
Mean Daily Discharge	27.1	267.8	92.7	290.0	909.0	227.0	23.4	27.4	23.3	29.0	18.7	15.5
Max. Mean Daily Discharge	324.0	3,450.0	1,590.0	3,760.0	9,190.0	2,020.0	42.0	58.0	33.0	39.0	30.0	94.0
Min. Mean Daily Discharge	8.7	10.4	10.4	11.6	14.9	21.0	11.6	14.9	13.5	19.4	9.2	6.7
Runoff in A.F.	1,672.0	15,936.0	5,699.0	17,855.0	50,510.0	13,964.0	1,393.0	1,688.0	1,388.0	1,782.0	1,152.0	924.0

Maximum Stage 9.23 feet at 1755 on January 18, 1973. Discharge 28230 second-feet. Total acre-feet 1972-73 (113,959)

MEAN DAILY DISCHARGE OF BIG TUJUNGA CREEK BELOW BIG TUJUNGA DAM
IN second-feet

Station 160-R

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	4.4	4.2	0.5	0.2	0.2	0.2	60.0	18.2	0.6	0.7	0.7	75.0
2	4.4	4.0	0.2	0.2	0.2	0.2	60.0	1.0	0.7	0.7	0.6	73.0
3	4.4	4.0	0.2	0.2	0.2	0.2	49.0	1.0	0.7	0.8	0.6	71.0
4	4.4	4.0	0.2	0.2	0.2	0.2	43.0	1.0	0.8	0.9	0.6	34.0
5	4.2	4.0	0.2	0.2	0.2	21.0	43.0	1.0	0.9	0.9	0.6	9.0
6	4.4	4.0	0.2	0.2	0.2	55.0	43.0	1.0	0.7	0.9	0.6	9.0
7	4.4	4.0	0.3	0.2	0.2	53.0	42.0	1.0	0.7	0.9	0.6	9.0
8	4.4	4.0	0.2	0.2	0.2	72.0	42.0	1.0	0.7	0.9	0.6	8.4
9	4.4	3.8	0.2	0.2	0.2	99.0	41.0	1.0	0.7	0.9	54.0	8.4
10	4.4	3.8	0.2	0.2	0.4	61.0	41.0	1.0	0.7	0.9	83.0	8.4
11	4.6	4.0	0.2	0.2	354.0	2.0	5.5	1.0	0.7	0.9	83.0	9.0
12	4.4	4.0	0.2	0.2	375.0	68.0	0.3	1.0	0.7	0.9	83.0	9.0
13	4.4	4.0	0.2	0.2	202.0	120.0	0.3	1.0	0.7	0.9	73.0	9.0
14	4.4	4.0	0.2	0.2	263.0	115.0	0.3	1.0	0.7	0.9	75.0	13.7
15	4.4	4.0	0.2	0.2	183.0	115.0	0.3	1.0	0.8	0.9	75.0	10.2
16	4.4	4.0	0.2	0.3	155.0	115.0	0.3	1.0	0.7	0.9	73.0	10.2
17	4.4	4.0	0.2	0.2	228.0	115.0	0.3	1.0	0.7	0.9	73.0	10.2
18	4.4	4.0	0.2	0.5	225.0	115.0	0.3	1.0	0.7	0.9	73.0	10.8
19	4.3	4.0	0.2	0.2	219.0	113.0	0.3	1.0	0.7	0.9	73.0	11.4
20	4.4	4.0	0.2	0.2	82.0	113.0	0.3	1.0	0.7	0.9	83.0	11.4
21	4.2	8.7	0.2	0.2	0.2	44.0	0.3	1.0	0.7	0.9	91.0	11.4
22	4.2	3.7	0.2	0.2	0.2	0.2	0.3	0.9	0.7	0.9	95.0	11.4
23	4.2	3.7	0.2	0.2	0.2	0.2	0.3	0.8	0.7	0.9	94.0	11.4
24	4.2	3.7	0.2	0.2	0.2	0.2	0.3	0.7	0.7	0.9	85.0	11.4
25	4.2	3.7	0.2	0.2	0.2	0.2	0.3	0.6	0.7	0.9	85.0	11.4
26	3.9	3.7	0.2	0.2	0.2	0.2	26.0	0.5	0.7	0.9	85.0	10.8
27	4.2	3.7	0.2	0.2	0.2	17.8	46.0	0.5	0.7	0.9	85.0	10.8
28	4.2	0.2	0.2	0.2	0.2	60.0	46.0	0.5	0.7	0.9	85.0	9.6
29	4.2	0.2	0.2	0.2	——	60.0	46.0	0.5	0.7	0.9	83.0	9.0
30	4.2	0.2	0.2	0.2	——	60.0	46.0	0.5	0.7	0.9	76.0	9.0
31	4.2	——	0.2	0.2	——	60.0	——	0.5	——	0.7	76.0	——
Total	133.6	111.3	6.8	6.6	2,289.8	1,953.8	693.7	44.2	21.3	27.4	1,845.9	518.3
Mean Daily Discharge	4.3	3.7	0.2	0.2	81.8	53.3	23.1	1.4	0.7	0.9	59.5	17.2
Max. Mean Daily Discharge	4.6	8.7	0.5	0.5	375.0	120.0	60.0	18.2	0.9	0.9	95.0	75.0
Min. Mean Daily Discharge	3.9	0.2	0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.7	0.6	8.4
Runoff in A.F.	265.0	221.0	14.0	13.0	4,542.0	3,280.0	1,376.0	88.0	42.0	54.0	3,661.0	1,024.0

Maximum Stage 3.72 at 2000 on February 11, 1973. Discharge 1030 second-feet. Total acre-feet 1972-73 (14,580)

MEAN DAILY DISCHARGE OF VERDUGO WASH AT ESTELLE AVENUE
In second-feet

Station 252-B

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	1.8	2.0	6.2	2.0	2.3	3.9	1.8	2.5	2.5	2.3	2.3	2.0
2	1.8	1.8	5.0	2.3	1.8	2.8	1.8	2.5	2.3	2.3	2.5	2.3
3	1.8	2.0	5.0	2.5	36.0	3.9	1.8	2.3	2.3	2.3	2.5	2.3
4	2.0	2.0	157.0	2.3	16.1	12.6	1.8	2.0	2.3	2.3	2.5	2.0
5	2.0	2.0	2.3	2.3	33.0	6.2	1.8	2.0	2.0	2.3	2.8	2.0
6	1.8	2.0	27.0	2.3	106.0	42.0	1.8	2.3	2.3	2.3	2.3	2.0
7	1.8	2.0	36.0	2.3	217.0	11.8	2.0	2.3	2.3	2.0	2.3	2.0
8	1.5	2.0	22.0	3.9	11.8	71.0	1.8	2.5	2.5	2.0	2.3	2.0
9	1.5	2.0	2.8	36.0	6.2	14.0	1.8	2.8	2.8	2.3	2.3	2.0
10	1.5	10.5	5.0	5.7	216.0	9.5	1.8	2.5	2.8	2.3	2.3	2.0
11	1.2	103.0	5.0	2.5	897.0	173.0	1.8	2.3	2.5	2.8	2.3	2.5
12	1.2	2.3	2.8	7.3	28.0	26.0	1.5	2.3	2.5	2.3	2.3	2.5
13	1.2	2.3	2.0	5.0	57.0	12.9	1.5	2.3	2.5	2.3	2.3	2.0
14	1.2	145.0	2.0	2.3	10.0	9.5	1.5	2.0	2.5	2.3	2.3	2.0
15	1.5	6.2	2.3	7.3	7.0	6.2	1.5	2.0	2.5	2.3	2.5	2.0
16	1.5	199.0	2.5	155.0	5.0	5.0	1.2	2.0	2.5	2.3	2.3	1.8
17	1.5	35.0	7.3	5.5	3.0	2.8	1.2	2.3	2.5	2.3	2.3	1.8
18	4.5	2.0	3.9	325.0	3.0	2.0	1.2	2.8	2.3	2.3	2.0	1.8
19	10.2	2.0	2.3	11.5	3.0	2.0	1.2	2.8	2.3	2.5	2.0	1.8
20	2.0	2.0	2.3	2.0	3.0	271.0	1.0	2.8	2.3	2.5	2.0	2.0
21	1.8	2.5	2.3	1.8	3.0	48.0	1.2	2.8	2.3	2.5	2.3	2.0
22	1.8	2.5	2.3	1.5	3.0	6.2	1.2	2.8	2.3	2.5	2.5	2.0
23	1.8	2.8	2.3	1.8	3.0	3.9	1.5	2.8	2.0	2.5	2.3	2.0
24	1.8	2.8	2.0	1.8	3.0	1.5	1.8	2.8	2.0	2.5	2.3	2.0
25	1.5	3.9	2.3	2.0	3.0	2.3	2.0	3.9	2.0	2.3	2.3	2.0
26	1.0	6.2	2.3	2.3	3.9	2.8	2.3	2.8	2.0	2.3	2.3	2.0
27	1.8	2.8	2.3	2.3	192.0	2.5	2.3	2.5	2.0	2.3	2.3	2.0
28	1.8	3.9	2.0	2.0	68.0	1.8	2.5	2.5	2.0	2.3	2.0	2.0
29	1.8	5.0	2.0	1.8	--	1.8	2.3	2.5	2.3	2.3	2.3	2.0
30	2.0	5.0	2.0	79.1	--	2.0	2.3	2.5	2.3	2.3	2.0	2.0
31	2.0	--	2.0	2.5	--	1.8	--	2.5	--	2.3	2.0	--
Total	62.6	564.6	324.5	683.9	1,941.1	762.7	51.2	77.7	69.7	72.1	71.7	60.8
Mean Daily Discharge	2.0	18.8	10.5	20.0	69.3	24.6	1.7	2.5	2.3	2.3	2.3	2.0
Max. Mean Daily Discharge	10.2	199.0	157.0	325.0	897.0	271.0	2.5	3.9	2.8	2.8	2.8	2.5
Min. Mean Daily Discharge	1.0	1.8	2.0	1.5	1.8	1.5	1.0	2.0	2.0	2.0	2.0	1.8
Runoff in A.F.	124.0	1,120.0	644.0	1,357.0	3,850.0	1,513.0	102.0	154.0	138.0	144.0	141.0	121.0

Maximum Stage 2.72 feet at 1636 on January 18, 1973. Discharge 4010 second-feet. Total acre-feet 1972-73 (9408)

MEAN DAILY DISCHARGE OF LOS ANGELES RIVER AT TUJUNGA AVE.
In second-feet

Station 300-B

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	9.7	10.2	8.5	9.3	7.6	39.0	15.4	15.7	13.4	12.7	13.4	12.7
2	9.5	10.2	8.4	10.2	7.6	34.0	14.9	16.9	14.2	12.7	11.8	13.0
3	8.9	9.7	8.7	11.3	829.0	25.0	15.7	15.2	13.2	13.2	11.8	14.4
4	10.9	19.2	879.0	11.1	572.0	20.0	14.7	14.7	12.7	13.2	12.7	14.4
5	9.5	21.0	19.2	10.6	270.0	20.0	14.4	15.4	15.2	13.2	11.1	13.4
6	9.5	10.0	76.0	11.1	1,680.0	212.0	17.7	13.4	14.7	13.7	11.8	13.4
7	9.3	10.0	267.0	12.5	1,330.0	60.0	18.5	13.2	15.0	12.0	11.1	12.5
8	8.2	10.4	97.0	13.0	46.0	885.0	17.5	14.9	14.4	12.0	11.3	11.3
9	6.6	10.0	120.0	297.0	22.0	47.0	18.0	15.2	13.0	13.7	12.0	10.6
10	8.9	13.8	7.2	73.0	1,820.0	23.0	21.0	14.9	12.7	14.7	12.2	11.6
11	8.4	454.0	5.9	10.9	6470.0	486.0	17.5	13.4	12.5	13.0	11.3	11.8
12	8.4	10.6	10.2	9.3	1,410.0	192.0	17.5	14.9	13.0	12.0	10.6	11.1
13	6.8	7.8	11.3	9.5	1,400.0	43.0	17.2	14.9	12.2	12.0	12.0	11.8
14	7.4	1,370.0	10.4	8.7	250.0	68.0	16.4	12.7	11.3	11.3	10.4	12.2
15	16.7	42.0	12.0	8.4	100.0	36.0	16.7	11.8	11.8	11.3	10.2	15.2
16	7.2	840.0	10.0	1,530.0	80.0	33.0	16.9	13.2	12.0	11.3	10.4	14.2
17	9.7	220.0	11.1	106.0	70.0	32.0	17.7	12.5	12.7	13.0	10.4	11.8
18	10.0	14.9	12.0	1,020.0	45.0	32.0	16.4	12.5	13.2	12.7	10.2	13.4
19	263.0	12.5	12.0	450.0	40.0	36.0	16.7	12.7	14.2	12.2	9.5	13.2
20	17.7	11.1	12.0	21.0	21.0	1,260.0	15.2	13.9	14.9	12.0	11.3	11.1
21	8.9	10.0	11.8	15.4	24.0	293.0	14.7	13.9	14.9	11.1	11.8	11.6
22	9.7	7.4	12.0	10.9	25.0	83.0	13.9	12.2	16.2	10.6	11.3	11.1
23	9.5	5.5	11.3	10.4	30.0	29.0	13.9	14.2	15.7	11.1	10.0	12.2
24	9.5	9.1	10.9	9.5	41.0	41.0	15.9	13.9	13.7	11.6	10.4	10.6
25	9.3	7.4	8.9	9.7	34.0	43.0	16.4	14.7	14.4	11.8	10.6	10.6
26	11.3	7.8	9.5	8.7	26.0	37.0	17.5	11.8	16.4	13.7	10.4	9.1
27	12.2	9.5	10.9	8.2	1,010.0	27.0	16.7	11.8	14.7	12.2	10.2	8.4
28	12.2	8.2	12.5	8.4	536.0	24.0	15.4	13.9	14.4	11.1	12.2	50.0
29	10.6	10.1	10.2	9.1	———	17.2	14.4	13.9	15.2	11.1	11.3	61.0
30	8.0	6.6	10.6	41.0	———	17.2	15.2	14.7	15.2	11.6	11.3	13.4
31	9.1	———	10.2	8.4	———	17.5	———	13.2	———	12.7	12.5	———
Total	556.6	3,189.0	1,668.7	6,567.6	18,196.2	4,211.9	490.0	430.2	427.1	380.5	347.5	451.1
Mean Daily Discharge	18.0	106.0	53.9	212.0	650.0	136.0	16.3	13.9	14.2	12.3	11.2	15.0
Max. Mean Daily Discharge	263.0	1,370.0	879.0	3,020.0	1,470.0	1,260.0	21.0	16.9	25.0	14.7	13.4	61.0
Min. Mean Daily Discharge	6.6	5.5	5.9	8.2	7.6	17.2	13.9	11.8	11.3	10.6	9.5	8.4
Runoff in A.F.	1,104.0	6,325.0	3,190.0	13,027.0	36,092.0	8,354.0	972.0	853.0	847.0	755.0	689.0	895.0

Maximum State 9.50 feet at 1805 on January 18, 1973. Discharge 17,900 second-feet. Total acre-feet 1972-73 (73,103)

MEAN DAILY DISCHARGE OF PACOIMA CREEK FLUME BELOW PACOIMA DAM
In second-feet

Station 1188-N

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	0.2	0.2	0.1	0.1	0.1	49.0	36.6	0.1	0.1	0.1	0.1	0.1
2	0.2	0.2	0.1	0.1	0.1	5.3	9.7	0.1	0.1	0.1	0.1	0.1
3	0.2	0.2	0.1	0.1	0.1	35.7	37.6	0.1	0.1	0.1	0.1	0.1
4	0.2	0.2	0.1	0.1	0.1	56.9	30.6	0.1	0.1	0.1	0.1	0.1
5	0.2	0.2	0.1	0.1	0.1	26.1	4.1	0.1	0.1	0.1	0.1	0.1
6	0.2	0.2	0.1	0.1	0.1	45.2	42.1	0.1	0.1	0.1	0.1	0.1
7	0.2	0.2	0.1	0.1	0.1	34.4	33.2	0.1	0.1	0.1	0.1	0.1
8	0.2	0.2	0.1	0.1	0.1	56.8	0.1	30.5	0.1	0.1	0.1	0.1
9	0.2	0.2	0.1	0.1	3.6	25.4	34.5	82.3	0.1	0.1	0.1	0.1
10	0.2	0.2	0.1	0.1	26.5	59.2	30.0	76.6	0.1	0.1	0.1	0.1
11	0.2	0.1	0.1	0.1	679.5	45.6	7.7	31.5	0.1	0.1	0.1	0.1
12	0.2	0.1	0.1	0.1	186.8	61.2	43.4	0.1	0.1	0.1	0.1	0.1
13	0.2	0.1	0.1	0.1	106.2	68.4	28.1	0.1	0.1	0.1	0.1	0.1
14	0.2	0.1	0.1	0.1	67.3	42.5	11.4	0.1	0.1	0.1	0.1	0.1
15	0.2	0.1	0.1	0.1	62.9	42.0	0.1	0.1	0.1	0.1	0.1	0.1
16	0.2	0.1	0.1	0.1	53.1	41.2	37.2	0.1	0.1	0.1	0.1	0.1
17	0.2	0.1	0.1	0.1	38.6	64.7	33.0	0.1	0.1	0.1	0.1	0.1
18	0.2	0.1	0.1	0.1	40.2	34.8	20.0	0.1	0.1	0.1	0.1	0.1
19	0.2	0.1	0.1	0.1	40.2	32.8	27.6	0.1	0.1	0.1	0.1	0.1
20	0.2	0.1	0.1	0.1	21.3	42.6	25.2	0.1	0.1	0.1	0.1	0.1
21	0.2	0.1	0.1	0.1	11.6	50.5	13.5	0.1	0.1	0.1	0.1	0.1
22	0.2	0.1	0.1	0.1	16.4	50.5	0.1	0.1	0.1	0.1	0.1	0.1
23	0.2	0.1	0.1	0.1	19.3	18.0	0.1	36.4	0.1	0.1	0.1	0.1
24	0.2	0.1	0.1	0.1	19.3	30.2	0.1	58.0	0.1	0.1	0.1	0.1
25	0.2	0.1	0.1	0.1	19.3	51.0	29.9	65.8	0.1	0.1	0.1	0.1
26	0.2	0.1	0.1	0.1	11.1	58.0	60.8	21.3	0.1	0.1	0.1	0.1
27	0.2	0.1	0.1	0.1	20.1	69.0	71.6	0.1	0.1	0.1	0.1	0.1
28	0.2	0.1	0.1	0.1	103.1	50.0	0.1	0.1	0.1	0.1	0.1	0.1
29	0.2	0.1	0.1	0.1	——	47.5	0.1	0.1	0.1	0.1	0.1	0.1
30	0.2	0.1	0.1	0.1	——	28.6	0.1	0.1	0.1	0.1	0.1	0.1
31	0.2	——	0.1	0.1	——	27.8	——	0.1	——	0.1	0.1	——
Total	6.2	4.0	3.1	3.1	1,547.4	1,350.9	668.6	384.7	3.0	3.1	3.1	3.0
Mean Daily Discharge	0.2	0.1	0.1	0.1	55.3	43.6	22.3	12.4	0.1	0.1	0.1	0.1
Max. Mean Daily Discharge	0.2	0.2	0.1	0.1	679.5	69.0	71.6	76.6	0.1	0.1	0.1	0.1
Min. Mean Daily Discharge	0.2	0.1	0.1	0.1	0.1	5.3	0.1	0.1	0.1	0.1	0.1	0.1
Runoff in A.F.	12.0	8.0	6.0	6.0	3,069.0	2,680.0	1,326.0	763.0	6.0	6.0	6.0	6.0

Maximum Stage 8.10 feet at 0730 on February 11, 1973. Discharge 1540 second-feet. Total acre-feet 1972-73 (7894)

MEAN DAILY DISCHARGE OF BURBANK WESTERN STORM DRAIN AT RIVERSIDE DRIVE
In second-feet

Station E 285-R

Day	October	November	December	January	February	March	April	May	June	July	August	September
1	7.9	7.9	7.9	11.9	9.1	7.0	6.7	9.1	9.1	10.6	5.6	9.1
2	9.1	7.9	7.9	11.9	7.9	5.0	6.7	6.7	9.1	9.1	5.6	9.1
3	9.1	7.9	7.9	11.9	89.0	5.0	5.6	5.6	10.6	9.1	5.6	9.1
4	9.1	7.9	148.0	9.4	10.6	15.0	5.6	5.6	10.6	7.9	5.6	10.6
5	10.6	7.9	7.9	10.6	8.0	10.0	6.7	5.0	10.6	7.9	5.6	11.9
6	9.1	7.9	25.0	11.9	73.0	50.0	5.6	5.0	7.9	6.7	5.6	11.9
7	9.1	9.1	23.0	10.6	110.0	15.0	5.6	6.7	7.9	5.6	5.6	13.1
8	9.1	11.9	17.7	7.9	10.6	80.0	5.0	6.7	7.9	5.6	6.7	13.1
9	9.1	11.9	4.5	27.0	11.9	6.7	5.0	5.6	7.9	5.6	6.7	11.9
10	9.1	13.1	4.5	9.1	221.0	5.6	4.5	5.0	7.9	5.6	6.7	11.9
11	9.1	101.0	4.5	7.9	478.0	80.0	5.0	5.0	7.9	5.6	5.6	9.1
12	10.6	14.6	4.5	7.9	116.0	9.1	5.0	5.0	7.9	5.6	5.6	6.7
13	9.1	14.6	4.5	7.9	29.0	6.7	6.7	5.0	9.1	6.7	6.7	5.6
14	6.7	120.0	4.5	7.9	18.5	7.9	7.7	5.0	9.1	7.9	5.6	6.7
15	5.6	11.9	4.5	7.9	11.9	7.9	7.9	5.0	6.7	7.9	5.6	6.7
16	6.7	200.0	4.5	161.0	10.6	7.9	9.1	4.5	7.9	9.1	6.7	5.6
17	6.7	40.0	5.0	7.9	7.9	7.9	9.1	4.5	9.1	9.1	6.7	6.7
18	6.7	7.9	6.7	295.0	7.9	6.7	11.9	5.0	9.1	7.9	6.7	7.9
19	10.6	7.9	6.7	7.9	7.9	6.7	9.1	5.0	9.1	9.1	7.9	7.9
20	10.6	7.9	7.9	9.1	7.9	180.0	9.1	4.5	9.1	7.9	10.6	9.1
21	7.9	7.9	10.6	9.1	7.9	41.0	11.9	5.0	9.1	9.1	10.6	9.1
22	10.6	6.7	11.9	9.1	7.9	5.0	10.6	4.5	10.6	9.1	10.6	11.9
23	11.9	6.7	10.6	9.1	7.9	6.7	11.9	4.5	9.1	6.7	10.6	13.1
24	11.9	6.7	9.1	9.1	7.9	6.7	11.9	4.5	9.1	6.7	11.9	14.6
25	9.1	7.9	4.5	9.1	7.9	6.7	11.9	4.5	7.9	6.7	11.9	15.7
26	7.9	6.7	7.9	9.1	9.1	6.7	9.1	5.0	5.6	6.7	11.9	14.6
27	7.9	7.9	11.9	7.9	147.0	6.7	10.6	4.5	6.7	7.9	13.1	15.7
28	7.9	7.9	10.6	7.9	90.0	6.7	10.6	5.0	6.7	7.9	10.6	15.7
29	7.9	7.9	10.6	9.1	——	6.7	10.6	5.6	11.9	7.9	9.1	14.6
30	7.9	7.9	9.1	17.6	——	6.7	11.9	6.7	11.9	9.1	10.6	13.1
31	7.9	——	11.9	7.9	——	6.7	——	7.7	——	9.1	10.6	——
Total	274.5	713.4	416.3	748.5	1,615.3	629.0	248.8	167..	263.1	237.4	248.5	321.8
Mean Daily Discharge	8.8	23.8	13.4	24.1	57.7	20.3	8.3	5.4	8.8	7.7	8.0	10.7
Max. Mean Daily Discharge	11.9	200.0	148.0	295.0	478.0	180.0	11.9	9.1	11.9	10.6	13.1	15.7
Min. Mean Daily Discharge	6.7	6.7	4.5	7.9	7.9	5.0	5.0	4.5	5.6	5.6	5.6	5.6
Runoff in A.F.	544.0	1,415.0	826.0	1,485.0	3,204.0	1,248.0	493.0	332.0	522.0	471.0	493.0	638.0

Maximum Stage 2.74 feet at 1748 on January 18, 1973. Discharge 3130 second-feet. Total acre-feet 1972-73 (11,648)

APPENDIX D

WELLS DRILLED AND DESTROYED

WELLS DRILLED 1972-73

Party	State Well No.	Owner No.
Los Angeles County Flood Control District	1N/14W-03F03	4969B
" " " " " "	2N/16W-19K01	4705
San Fernando, City of	3N/15W-34B02	2A
Los Angeles, City of	1S/13W-05J01	

WELLS DESTROYED 1972-73

Party	State Well No.	Owner No.
Western Oil and Gas Association	1N/13W-32H01	W-19
" " " " "	1N/13W-32H02	W-20
" " " " "	1N/13W-32J01	W-16
" " " " "	1N/13W-32J02	W-18
" " " " "	1N/13W-33M01	W-12
" " " " "	1N/13W-33M03	W-66
" " " " "	1N/13W-33N07	W-10
" " " " "	1N/13W-33N09	W- 7
" " " " "	1N/13W-33N11	W- 6
" " " " "	1N/13W-33P08	W-33
" " " " "	1N/13W-33P13	W-49
" " " " "	1N/13W-33P27	W- 5
San Fernando, City of	1N/13W-34B01	2
U. S. A. Corps of Engineers (Art Robinson)	1N/15W-07Q01	----
Hartranft L. O.	2N/14W-10R01	2